

Electronic Records Management in Selected Government Ministries and Parastatals in Zambia

By
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This dissertation is submitted to the University of Zambia in partial fulfilment of the requirements for the award of a Degree of Master in Library and Information Science.

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DECLARATION

I, Elijah Muntanga, hereby declare that this dissertation is a true reflection of my research work and that wherever contributions of other scholars are involved, every effort is made to indicate this clearly, with due reference to the literature and acknowledgment of collaborative research and discussions. I further declare that this dissertation has not been submitted or being concurrently submitted in candidature for a degree, diploma, or any qualification at the University of Zambia or any other institution of higher learning.

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CERTIFICATE OF APPROVAL

This Dissertation of Elijah Muntanga has been approved as partial fulfilling the requirements for the award of Master of Library and Information Science of the University of Zambia.

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DEDICATION

This Dissertation is dedicated to my family, my loving parents, Mr. Elisha D. Muntanga (late) and Mrs. Anna Mwansa, my siblings, Trisha Muntanga, Elbah Muntanga and Mapalo J. Muntanga, whose unwavering support, understanding, and sacrifices have been my constant source of inspiration and motivation. Your wisdom and endless encouragement have fueled my pursuit of knowledge, and for that, I am profoundly grateful. Thank you for being the bedrock of my life.

ABSTRACT

This study aimed at investigating electronic records management in government ministries and parastatals in Zambia. The study's specific objectives were to: establish the extent to which government ministries and parastatals in Zambia keep e-records, establish if there is a legal framework, policies and standards governing e-records management, assess the level of knowledge and training of staff in e-records management, determine the ICT infrastructure available for keeping e-records, and establish the possible challenges for e-records management. Employing the Technology-Organisation-Environment (TOE) framework as a guiding theoretical lens, this quantitative study adopted a survey research design to collect data from 50 purposively selected government ministries and parastatals in Zambia. Hand-delivered questionnaires were used to gather data from records officers, registry clerks, or officers responsible for records management within these institutions. The data collected was subsequently analysed quantitatively using the Statistical Package for Social Sciences (SPSS) software version 23.

The findings of the study established that 76% of government ministries and parastatals in Zambia keep e-records which include emails, policy documents, minutes of meetings, court proceedings, memos, reports, official speeches, contracts, press statements, tax invoices, workshops/conferences, and business plans. However, a significant portion of these e-records were found to be stored on personal computers as evidenced by 50% of government ministries and parastatals in Zambia. The findings further show that the adoption and use of electronic records management systems in government ministries and parastatals in Zambia is not widespread. Only 9.5% of government ministries and parastatals in Zambia have deployed Electronic Document and Records Management Systems (EDRMS) commercial software such as the Total Records and Information Management (TRIM) and HP Records Manager.

The findings also revealed that Zambia has relevant legislative frameworks to support e-records management which include the Electronic Communications and Transactions Act of 2021, and the Electronic Government Act of 2021. However, the majority 86% of government ministries and parastatals in Zambia were ignorant about the existence of these laws. Further, it has also been established that Zambia has a Public Service Records Management Policy and the Registry Service Manual to guide the management of records within the entire public service. However, the majority 76.2% of government ministries and parastatals in Zambia were not familiar with these records management tools. Additionally, it has also been revealed that a considerably high

number 74% of government ministries and parastatals in Zambia have not adopted any standard(s) to support e-records management.

The findings have also revealed that the majority 57% of the records management personnel in government ministries and parastatals in Zambia have no formal training in e-records management, hence they lack the knowledge and skills needed to effectively manage e-records. The findings further indicated that the majority 60% of the government ministries and parastatals in Zambia had inadequate ICT infrastructure to aid the effective management of e-records as ICT tools such as computers, servers, electronic records management systems (ERMS), internet connectivity, scanners, and printers were not readily available in the surveyed institutions. The study also established that numerous challenges hinder the effective management of e-records in many government ministries and parastatals in Zambia. These include lack of funding, absence of clear policies, laws, and standards, inadequate ICT infrastructure, lack of qualified staff, high ICT-related costs, resistance to technology, and lack of senior management support and corruption.

The study concluded that government ministries and parastatals in Zambia are making commendable efforts to transition to e-records management. However, many institutions are managing e-records on personal computers, signifying a lack of formalised e-records management programme in public sector organisations. Based on the findings above, the study recommends that the Government of Zambia should review and update the existing records management policy and manual to encompass the management of e-records or develop and implement a National Electronic Records Management Policy to guide the effective management of e-records in the entire public service. It is also recommended that the Zambia Archives and Records Management Association (ZARMA) should prioritise raising awareness among records management personnel about the existence of laws that support e-records management in Zambia; and the senior management in Zambian government ministries and parastatals should allocate sufficient funding for the procurement and continuous maintenance of end-user ICT equipment such as computers, internet connectivity, servers, scanners, and printers; procure and implement proper e-records management solutions such as ERMS; train records management staff in e-records management; and develop and implement clear in-house e-records management policies.

Keywords: E-records, e-records management, government ministries, parastatal institutions, Zambia

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ACRONYMS

ANA	Australian National Archives
CCTV	Closed Circuit Television
CD	Compact Disc
CD-ROM	Compact Disc Read-Only Memory
CIPA	Companies and Intellectual Property Authority
DoD	Department of Defense
DRGS	Directorate of Research and Graduate Studies
DVD	Digital Video Disks
ECMS	Enterprise Content Management System
EDMS	Electronic Document Management System
EDRMS	Electronic Document and Records Management System
E-NHIMA	Electronic National Health Insurance Management Authority
ERMS	Electronic Records Management System
ESARBICA	Eastern and Southern Africa Regional Branch of the International Council on Archives
HU	Hacettepe University
ICT	Information and Communication Technology
INRIS	National Registration Information System
ISO	International Organization for Standardization
I T	Information Technologies
KNADS	Kenya National Archives and Documentation Service
LAN	Local Area Network
LIS	Library and Information Science
MAN	Metropolitan Area Network
MoReq2010	European Model Requirements for the Management of Electronic Records
MS	Microsoft
NAZ	National Archives of Zimbabwe
NGO	Non-Governmental Organization
PDF	Portable Document Format
PSMD	Public Service Management Division
SSD	Solid-State Drive
SFU	Simon Fraser University

SME	Small and Medium Sized Enterprise
SPSS	Statistical Package for Social Sciences
TTS	Trinity Theological Seminary
TOE	Technology-Organization-Environment
TRIM	Total Records and Information Management
UNILIA	University of Livingstonia
UNZA	University of Zambia
UPS	Uganda Public Service
WAN	Wide Area Network
ZARMA	Zambian Archives and Records Management Association

CHAPTER ONE: INTRODUCTION

1.0 Overview

This chapter gives the background to the study, a statement of the problem, the purpose of the study, objectives of the study, research questions, significance of the study, delimitations of the study, limitations of the study, ethical considerations, and definitions of operational terms. This chapter ends with a summary.

1.1 Background to the Study

Over the years, the concept of electronic records management has gained popularity and this has extremely altered the way most individuals, businesses, and governments report, process, and store essential information. In today's global economy and competitive environment, information plays a very significant role in the running of businesses. It is increasingly used as a corporate resource to improve productivity, efficiency, and effectiveness (Laudon and Laudon, 2016). It is every organisation's most basic and essential asset because it is used in decision-making as well as legal aspects and protections. Without it, modern organisations simply could not function. Hence, the need to preserve and manage information in the form of records.

Every business has records that are vital to its everyday operation as well as its very existence. According to Kulcu (2009), records are created and maintained to meet the goals and objectives of an organisation. McKemmish (2013), stated that records have multiple purposes in terms of their value to an individual, organisation, or society. They are vehicles of communication and interaction, facilitators of decision-making, enablers of continuity, consistency and effectiveness in human action, memory stores, repositories of experience, and evidence of rights and obligations. Records provide managers, particularly chief executives with important information needed to direct, control, communicate, plan, and formulate policies (Akporhonor and Iwhiwhu, 2007). It is a desirable practice, therefore, that the records of an organisation are managed appropriately and effectively just like any other organisational resource or asset (Mulauzi, 2019).

Traditionally, records have existed as print sources of information. As a result, most government departments and agencies in many developing countries including Zambia, have been using orthodox manual processes in managing their businesses and as such, they are still characterised by a lot of paperwork, long queues, and cramped spaces, and this has proved to be laborious and

time-consuming to both government and citizens (Yang, 2017; Singh and Travica, 2018). In addition, with a paper-based filing system, records can also get out of order if someone accidentally puts a file in the wrong place or takes a file out of a cabinet and forgets to put it back and this can lead to lost files or the creation of additional copies of files (Hamel, 2018). This problem may have serious repercussions on the efficiency and effectiveness of an organisation.

Furthermore, traditional filing systems have also proved disadvantageous because they either need clients to visit various business institutions to seek information or the institutions may require clients to visit their respective premises to gather the needed information from clients. This creates moments of apprehension resulting in delays in implementing government policies for societal development (Sikaonga and Tembo, 2020). For instance, in their study, Mulauzi, Hamooya, and Munsanje-Mwale (2015), established that in the pension industry, misplacement or loss of records including the slow speed at which needed records are retrieved from their storage results in beneficiaries not being given feedback on time about their benefits.

In recent times, however, the world has undergone great advancements mainly due to the emergence of modern Information and Communication Technologies (ICTs). The rapid growth of digitalisation has led many governments across the globe to introduce and incorporate technology into governmental processes. Notably, revolutionary changes brought by ICTs to the global society are pushing governments to develop more elegant ways of digitalising routines and practices to offer more efficient, effective, and responsive government services to citizens (Safeena and Kammani, 2013). According to Chipeta and Ngoyi (2018), countries that have adopted ICTs have transformed and modernized civil service administration. This is because the use of ICTs in government departments has the potential to empower people to overcome development obstacles, address social problems, strengthen democratic institutions, reduce the costs of doing business and improve service efficiency and transparency (Nkwe, 2012). Therefore, recognising the power of ICTs, modern governance systems are slowly shifting from the traditional paper and file types of administrative processes that dominate most government departments and agencies by turning to e-government led solutions like e-records management.

Today, in a bid to ensure speedy, more responsive, and transparent government services to the citizens, coupled with the need for government systems reinvention, more and more records are being generated electronically across all government institutions, some of which are deployed for access and use through the e-government systems (IRMT, 2011). Asogwa (2012), also attests that the proportion of information on electronic media is increasing exponentially and

modern technology is rapidly changing the way governments, institutions, organisations, and individuals conduct their businesses and thus altering the nature of records and archives being created. For example, research has shown that more than 90 percent of the records are now produced in the electronic environment (Külcü, 2009). According to the National Archives of Australia (2014), e-records are created, communicated, and maintained using computer technology. They may be 'born digital' (created using computer technology) or they may have been converted into digital form from their original format (e.g. scans of paper documents).

Nonetheless, e-records offer numerous benefits to any organisation thriving to remain competitive in this information age. For instance, with the help of networks, e-records facilitate the transfer of information and can be accessed by many individuals simultaneously from different locations, thereby enhancing transparency and accountability in public sector organisations (Ndenje-Sichalwe and Ngulube, 2009). E-records also optimise the usage of office space by reducing redundant records as compared to paper records which are usually duplicated. These records also survive beyond their retention periods without demanding expensive on and off-site storage equipment such as filing cabinets. E-records also need a relatively smaller number of employees to manage them. All these have positive financial effects. In addition, Nyampong (2015), posited that e-records unlock the content previously difficult to access in paper form, enable more effective sharing of information and contribute to knowledge network flows. They support evidence-based policy making by providing reliable evidence of past actions and decisions. For instance, effective and efficient e-records are essential when it comes to evidence in cases of litigation.

In this digital era, sound records management systems are critical to the public sector to be accountable and transparent as well as to improve services to citizens, especially in poorer countries like Zambia. As Wamukoya and Mutula (2007) noted, sound electronic records keeping systems are increasingly being emphasized and needed to enhance the performance, transparency, and accountability of governments. In the same breath, IRMT (2009) also accentuated that well-managed e-records provide a strong foundation for enhancing accountability, transparency, democratic governance, poverty eradication, elimination of corruption, and efficient use of donor-funded resources. Besides that, effective e-records management improves the quality of data and information used across government ministries, agencies, and institutions (Ambira et al., 2019). In addition, e-records management is perceived to minimise errors made by humans, increase security, facilitate access to data and information,

minimize duplicates, ensure data documentation, and reduce information and communication costs.

Having realized the benefits that effective e-records management brings forth, many government institutions and agencies in both developed, emerging, and developing countries have been keeping records electronically to provide efficient services to their citizens, customers, and other different stakeholders. However, Sampson et al. (2019), pointed out that for an e-government initiative such as e-records management to be implemented successfully, important technological, cultural, social, political, and organisational issues must be considered and handled carefully by any government considering its implementation, especially in developing countries. Newa and Mwantimwa (2019), postulated that the most basic prerequisites for e-records management implementation to succeed is that there should be a robust ICT infrastructure in place; appropriate policies and regulatory frameworks; an IT-oriented public; availability of electricity; a reliable and accessible internet service; top management support; and adequate financial resources to set up the appropriate infrastructure.

1.2 Context of the Study

Governments around the world are under increasing pressure to enhance service delivery while minimizing operational costs (Heeks, 2017). This has led to the adoption of e-government as a strategic approach to improving efficiency, transparency, and accessibility in public administration (Ab Aziz et al., 2019). In Zambia, the journey toward e-governance began with the Public Service Reforms Programme (PSRP) of 1993, which was the first major effort to integrate technology into public service delivery. This initiative was aimed at modernising public sector operations by improving efficiency, reducing bureaucratic bottlenecks, and fostering transparency through the strategic use of information and communication technologies (ICTs) (Chipeta, 2018). However, the need to integrate ICTs into government operations was further reinforced in the Fifth National Development Plan (FNDP) (2006–2010), which emphasized digital transformation as a key enabler of economic growth and service delivery. During this period, the government actively promoted the adoption of ICTs within public service institutions to enhance operational efficiency and citizen engagement.

Furthermore, another significant milestone in Zambia's digital transformation journey was the Zambia National ICT Policy of 2006, which underscored the necessity of leveraging ICTs across all sectors to promote socio-economic development and create a competitive, well-regulated digital economy (The Government of the Republic of Zambia, 2006). This policy set

the stage for a structured approach to e-governance, leading to the gradual implementation of various e-government initiatives across ministries and government agencies. It is worth noting, however, that Zambia's move toward modernising its governance systems has been formalised through the enactment of the E-Government Act of 2021. This legislation mandated the full adoption of ICTs in public administration, requiring all government institutions to integrate electronic systems to enhance service delivery and operational efficiency (National Assembly of Zambia, 2024). Additionally, the Act facilitated the establishment of the Electronic Government Division within the Office of the President, tasked with overseeing and coordinating all e-government initiatives in the country. The objective of this division is to ensure that government services are delivered efficiently and securely through the use of digital platforms (National Assembly of Zambia, 2024). By facilitating the establishment of e-government systems such as e-records management systems, the Act supports the government's broader vision of leveraging technology to improve interactions with citizens and stakeholders.

In addition to its focus on digital transformation, Zambia has also recognized the importance of aligning e-government initiatives with sustainable development goals. The National Green Growth Strategy (NGGS) (2024-2030) was launched in April 2024. This strategic plan aims at transitioning the nation into a resilient, low-carbon, and socially inclusive economy. It promotes environmentally sustainable economic growth while leveraging ICTs to minimize carbon footprints and enhance resource efficiency (The Government of the Republic of Zambia, 2024). The principles of green growth also encourages the adoption of electronic systems as a strategy to reduce paper consumption thereby promoting paperless offices to minimize environmental impact. In the same vein, Chowdhury (2012), posits that the reduction in paper consumption directly contributes to the preservation of forests and a decrease in carbon emissions associated with paper production.

In an effort to implement e-government, the Smart Zambia Institute also developed a comprehensive Government Master Plan (2018-2030) that outlines strategic priorities for e-governance. This plan serves as a comprehensive roadmap for Zambia's digital transformation, focusing on integrating ICT-driven public service reforms into national development agendas, including Zambia's Vision 2030 (Smart Zambia Institute, 2023). The plan aims to establish a paperless government by enhancing information management and improving public sector efficiency through the adoption of e-governance systems such as e-records management systems. The strategy builds upon previous experiences and plans while incorporating forward-looking innovations to create a resilient and adaptable e-government system capable of meeting

evolving technological demands. One of the key the objective of the Smart Zambia E-government Master Plan is to provide a well-defined strategy for expediting endeavours in delivering high-quality and prompt services to citizens, businesses, and other stakeholders, while enhancing cooperation across government agencies (Smart Zambia Institute, 2023). In addition, the master plan also envisions the transformation of traditional government processes into a fully electronic environment, ensuring that government operations are more transparent, accountable, and citizen-centric.

Therefore, it is cardinal to mention that, embarking on a journey towards the implementation of e-records management as part of e-government services in the public sector, requires an environment that is very conducive to realising its potential objectives and development. Ideally, an environment that is more 'e-ready', and people are in general more comfortable with the new technologies (Ambali, 2009). Even though the adoption of e-records management is increasing in many developing countries, not all government institutions and agencies have digitalized their records sub-sector. They keep paper records. In Zambia and many other developing countries, the concept of e-records management is gaining ground. It is against this background that this study was conducted to investigate e-records management in government ministries and parastatals in Zambia.

1.3 Statement of the Problem

Just like in many other developing countries, most government ministries and parastatals in Zambia are still using paper-based filing systems and consequently, they waste a lot of time looking for missing and/or misfiled records, which is not conducive to the functioning of organisations (Marutha, 2011). Singh and Travica (2018) observed that manual-based filing systems are characterised by a lot of paperwork, long queues, bureaucracy, and cramped spaces. Manual records management systems breed delayed or poor service delivery and are a source of frustration on the part of the public because citizens are still required to visit respective government institutions and agencies to get basic information, complete and submit forms, or get other services that possibly can be offered electronically (Madariaga et al., 2019). There is, therefore, a pressing need for many government ministries and parastatals to enthusiastically embark on major e-government led solutions such as e-records management to ensure easy and timely retrieval of records. This enhances efficiency as well as brings about savings in space, equipment, and manpower. Failure to do so undermines accountability, and efficient management of an organisation, leading to poor decision-making, corruption, fraud, and abuse

of the rights of the citizens and hence denting the image of the institutions (Ndenje-Sichalwe et al., 2011).

Over the years, a great amount of research has been conducted on e-records management and e-government implementation in several countries such as South Africa, Botswana, Namibia, Lesotho, Tanzania, Nigeria, Zimbabwe, and Kenya (Keakopa, 2007; Kyobe, Molai and Salie, 2009; Mutsagondo, 2017; Moloi and Mutula, 2007; Kamatula, 2018; Eze, 2013; Matangira, 2016; Yonazi, 2010; Nasieku, Kemoni and Otiike, 2012). However, there has been no research undertaken to investigate government ministries and parastatals in Zambia as regards the adoption and implementation of e-records management. Earlier studies on records management in Zambia have largely focused on paper-based records management. These include studies by Bwalya (2010), Chirwa (2014), and Mulauzi, Hamooya and Munsanje (2015). Other studies such as Bwalya (2011), Chipeta (2018), and Sikaonga and Tembo (2020), took a generic approach by looking at e-governance adoption in Zambia. These studies did not specifically look at electronic records management among government ministries and parastatals in Zambia. It was therefore salient that a study on electronic records management in Zambian government ministries and parastatals be conducted to measure the extent to which these institutions manage e-records, appreciate the systems being used, possible benefits, and challenges they face in the management of e-records.

1.4 Purpose of the Study

The purpose of this study was to shed light on the status of electronic records management in Zambia by assessing the extent to which government ministries and parastatals in Zambia have deployed e-records management initiatives.

1.5 Research Objectives

The main objective of this study was to investigate e-records management in government ministries and parastatals in Zambia. In this regard, the study sought to:

- (i) establish the extent to which government ministries and parastatals in Zambia keep e-records;
- (ii) establish if there is a legal framework, policies and standards governing the management of e-records in government ministries and parastatals in Zambia;
- (iii) find out the level of knowledge and training of staff in e-records management in government ministries and parastatals in Zambia;

- (iv) determine the ICT infrastructure available for e-records management in government ministries and parastatals in Zambia;
- (v) establish the possible challenges for e-records management in government ministries and parastatals in Zambia.

1.6 Research Questions

This study was guided by the following research questions:

- (i) Do government ministries and parastatals in Zambia keep e-records?
- (ii) Are there legal frameworks, policies and standards governing the management of e-records in government ministries and parastatals in Zambia?
- (iii) What is the level of knowledge and training of staff in e-records management in government ministries and parastatals in Zambia?
- (iv) What ICT infrastructure is available for e-records management in government ministries and parastatals in Zambia?
- (v) What challenges are likely to be faced by government ministries and parastatals in Zambia in the management of e-records?

1.7 Significance of the Study

It is hoped that the findings of the study may be of particular importance to policy makers, especially government officials as it would provide them with valuable information that can be used in the formation of proper policies, standards, guidelines, and procedures as regards the effective implementation of e-records management. The findings of the study may also raise awareness about the critical importance of e-records management in public sector organisations. By shedding light on the challenges and prospects of e-records management systems (ERMS), it could serve as a valuable planning tool for organisations seeking to adopt or improve their e-records management practices. Additionally, it is also hoped that the findings of the study may benefit not only government ministries and parastatals but also all types of institutions that are either private, small and medium-sized enterprises (SMEs), and non-governmental organisations (NGOs) that are desirous to opt for e-records management. The study's findings may guide these organisations in leveraging e-records management systems (ERMS) to streamline their operations, secure critical information, and improve decision-making processes. Furthermore, it is hoped that the study may also contribute immensely to the existing body of knowledge on e-records management and act as a baseline study for other future studies on the implementation of e-records management initiatives in Zambia and beyond.

1.8 Delimitations of the Study

This study on e-records management in government ministries and parastatals was conducted in the Lusaka district. Therefore, the study was not extended to all government ministries and parastatals outside Lusaka. The government ministries and parastatals studied are line ministries, commissions, corporations, agencies, boards, institutes, and a local authority. Further, the other delimitation is that the study focused exclusively on government ministries and parastatals; private sector organisations and non-governmental organisations were not studied.

1.9 Limitations of the Study

As it is for every study, this study was subject to several known limitations. One of the major limitations was the use of a self-administered questionnaire. The researcher solely relied on self-administered questionnaires to gather data from the respondents and hence some respondents may have misunderstood some questions therein. This could affect the findings of the study. Furthermore, the validity of the research findings may also be nullified due to the biasness of the choice of the sampling technique that was employed because the respondents and organisations that took part in the study were not randomly selected. Lastly, the study was also restricted to government ministries and parastatals in Lusaka, hence some vital information may have been left out. This implies that the findings of the study may not necessarily be generalised to the entire country. However, to overcome the aforesaid limitations, the following measures were put in place. As for the self-administered questionnaires, some questions that were not answered properly by the respondents due to misunderstanding, the researcher mitigated this using follow-up telephone interviews. Concerning the choice of the sampling technique used, the researcher tried to mitigate this by employing a large sample of respondents.

1.10 Ethical Considerations

Ethics occupies the heart of the research process. It regulates relationships between the researcher and respondents and requires adhering to standards and ethical principles that address issues of honesty as a fundamental norm in all scientific communications such as honesty in reporting of data, results, methods, and procedures. Nevertheless, according to Maxwell and Kelley (2011), ethics refers to the quality of research procedures, concerning their adherence to professional, legal, and social obligations to the research participants. These guidelines deal with voluntary participation, no harm to respondents, anonymity, and confidentiality. Thus, the

researcher ensured that such principles and codes of conduct were consistent as this attached great significance to the uprightness of the study.

First and foremost, the researcher sought an ethical clearance from the Directorate of Research and Graduate Studies (DRGS) through the Assistant Dean (Post-Graduate) School of Education. In addition to this, the researcher also ensured that an introductory letter from the University of Zambia (UNZA) under the Department of Library and Information Science (LIS) was obtained for proof of identity by relevant stakeholders before commencing data collection. Furthermore, the researcher also sought to gain informed consent from the respondents who participated in the study. The respondents were informed about the purpose of the research and the importance of their participation while observing the principle of voluntary participation as well as maintaining strict confidentiality as regards the personal details of the respondents.

1.11 Operational definitions of key concepts

For this study, the following were the operational definitions of the terms below:

- (i) Record:** This is something that represents proof of existence and that can be used to recreate or prove the state of existence, regardless of medium or characteristics. It is either created or received by an organization in pursuance of or compliance with legal obligations, or in the transaction of business (IRMT, 2011). In the context of this study, a record is defined as any document or recorded information, regardless of format or medium, which has been created, received, used, accessed, and maintained by Zambian government ministries and parastatals in the conduct of their business activities and transactions.
- (ii) Records Management:** This is a field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use, and disposal of records, including the processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records (Healy, 2010).
- (iii) E-government:** This refers to the use of information technologies in the public service to improve service delivery for citizens and enhance collaboration in decision-making processes (Joseph, 2017). In the context of this study, e-government entails the use of information and communications technology (ICT) and its application by government ministries and parastatals in Zambia for the provision of information and public services to citizens, business partners, and employees.

(iv) Electronic Records: These are recorded information, documents, or data that provide essential evidence of organisational activities, transactions, and decisions carried out in e-government and e-commerce (International Records Management Trust, 2009). In other words, e-records are defined as information or data files, created and stored in electronic form through the use of computers and application software (Mnjama, 2014). In the context of this study, e-records entails information that Zambian government ministries and parastatals capture in an electronic form that can be created, modified, maintained, archived, retrieved, or distributed using a computer or electronic system.

(v) Electronic Records Management: This refers to planning, controlling, directing, organizing, training, promoting, and other managerial activities related to the creation, maintenance, use, and disposition of records using Information Communication Technologies (Wamukoya and Mutula, 2007). In other words, electronic records management is defined as the management of electronic and non-electronic records by software. This includes maintaining disposition schedules for bookkeeping records for specified retention periods, archiving, or destruction (Smallwood, 2013).

(vi) Information and Communication Technologies (ICTs): These are tools and as well as means used for the collection, capture, process, storage, transmission, and dissemination of information. In other words, it is the technology that supports activities involving the creation, storage, manipulation, and communication of information, together with the related methods, management, and application (Amaewhule and Appah, 2019). This means that ICT contributes to making it realistic for the recording, storing, processing, retrieving, and transmitting of information using technological facilities (Dambo and Wokocha, 2020). In the context of this study, the term ICTs refers to various technologies that could be used by government ministries and parastatals in Zambia to gather, process, store, retrieve, and disseminate information with ease.

(vii) Government: This refers to an institution entrusted with making and enforcing the rules of a society as well as with regulating relations with other societies. In other words, it is the authority that sets rules for society.

(viii) Government Ministry: This is defined as a department or a collective of departments specialised in the administration of certain sectors of government (Commonwealth Network, 2025). In the context of this study, government ministries refers to the high-level administrative divisions within the Zambian government, responsible for formulating

policies, setting regulations, and overseeing specific sectors of public affairs, such as education, health, or finance, typically led by a political minister and supported by senior civil servants.

(ix) Parastatal Institutions: These refer to a wide range of bodies such as boards, corporations, and companies that operate in the state-dominated sector of the economy. In other words, they are semi-autonomous corporations set up by the government through Acts of Parliament (Magang and Kube, 2018). In the context of this study, parastatal institutions entails public sector entities or institutions that are owned, controlled, or significantly influenced by the Zambian government, but operate independently of direct government control.

1.12 Summary of Chapter One

This chapter has revealed that traditionally, records have existed as print sources of information. As a result, most government departments and agencies in many developing countries including Zambia, have been using orthodox manual processes in managing their businesses and as such, they are still characterised by a lot of paperwork, long queues, cramped spaces, and this has proved to be laborious and time consuming to both government and citizens. In the past few years, however, the world has undergone great advancements mainly due to the emergence of modern Information and Communication Technologies (ICTs). The revolutionary changes brought by ICTs to the global society are pushing governments to develop more elegant ways of digitalising routines and practices to offer more efficient, effective, and responsive government services to citizens. Therefore, recognising the power of ICTs, modern governance systems in both developed and developing countries are slowly shifting from the traditional paper and file types of administrative processes that dominate most government institutions and agencies by turning to e-government led solutions like e-records management as an effective tool for providing efficient services to their citizens and other different stakeholders.

In Zambia, however, the extent to which government ministries and agencies have adopted and implemented e-records management is not known because no research has been conducted. This study, therefore, aimed to investigate the implementation of e-records management in government ministries and parastatals in Zambia, establishing the extent to which government ministries and parastatals keep e-records, establishing if there is a legal framework, policies and standards governing the management of e-records, finding out the level of knowledge and training of staff in e-records management, determining the ICT infrastructure available for e-

records management, and establishing the possible challenges for e-records management. It is hoped that the findings of the study would contribute immensely to the existing body of knowledge on e-records management and act as a baseline study for other future studies on the adoption and implementation of e-records management initiatives in Zambia and beyond. The limitations of the study is that it solely relied on self-administered questionnaires to gather data from the respondents. Further, an ethical clearance was also sought from the Directorate of Research and Graduate Studies (DRGS) through the Assistant Dean (Post-Graduate) School of Education. In addition to this, informed consent was also sought from the respondents who participated in the study. Operational definitions of terms used in this study include records, records management, e-records, e-records management, e-governance, information and communication technologies (ICT), government, government ministries, and parastatal institutions. The proceeding chapter will review literature that is relevant to the present study.

CHAPTER TWO: LITERATURE REVIEW

2.0 Overview

This chapter aims to contextualise the study within the background of existing studies by reviewing various works of literature related to the adoption and implementation of e-records management in Zambian government ministries and parastatals. For this study, the review of literature will begin with a brief historical background within which the study is contextualised before narrowing down to themes as derived from the research objectives/research questions. Among the areas that will be covered include types of e-records created and kept, legislative frameworks, policies, and standards governing e-records management, the level of knowledge and training of staff in e-records management, the ICT infrastructure needed for e-records management, and the possible challenges the world is facing regarding the adoption and implementation of e-records management. Lastly, a chapter summary will be drawn.

2.1 History of Electronic Records Management

The history of e-records management can be traced back to the late 1970s, along with the introduction of computing and computerised information systems (Lewellen, 2015). Long before colonialism, systematic records management was just a dream for organisations and government bodies (Nengomasha, 2013). This is because there was no systematic or procedural management of records due to a lack of knowledge about the use and benefits of records and their proper management and archiving (Ngoepe, 2014). At that time, government bodies and businesses alike kept records in whatever format suited them best. The availability of resources and space played a vital role in determining how records were kept and for how long. As soon as records were no longer necessary, or if storage costs became too expensive, they were disposed off in whatever fashion that best served the organisation in question.

However, with the proliferation of computer technology in the business world in the 1970s, the field of records management changed significantly. With the use of computers and word processing software, many organisations and businesses started producing documents at a much faster rate. Consequently, the need to keep even more records and to manage them more efficiently became apparent as a result of the technology (Ngoepe, 2014). At the same time, the development of new legislation by three government bodies in the United Kingdom (UK) also led to the expansion of the records management industry. For instance, the development of document retention laws stimulated the need for even more sophisticated levels of records

management. The new laws require organisations to start retaining records for certain periods. As a result, various organisations and businesses began to digitise their files and store them electronically (Access Records Management, 2018).

In the 1980s, the recordkeeping and archival community witnessed other new technological breakthroughs, such as barcode scanners. The development of these systems made it much easier for organisations to manage and improve the security aspects of records in their custody. For example, with barcodes affixed to files or boxes, computerized tracking systems were used to keep track of the record's whereabouts and provide easy identification (Phillips, 2004). In addition, the compact disk (CD) is yet another piece of technology that was introduced in the 1980s. This technology enabled organisations to store thousands of documents in a very small space, which in turn helped to save office space and also reduce the costs and hassles associated with paper records.

By the late 20th century, computer technology advanced once again and led to even greater efficiency gains in the records management field. For instance, with the proliferation of digital scanners in the business world, paper-based documents could be read and converted automatically into electronic files. This new technique saved many hours of expensive data entry labor (Access Records Management, 2018). Furthermore, computer systems became ubiquitous during this period, and most organisations began to have a new vision for the future, that is, the paperless office.

In today's 21st Century, records management activities in many government departments, agencies, and businesses around the world have changed tremendously. Due to the rapid rate of technological advancements, many organisations are becoming increasingly automated administrative business processes and as a result, many records are either being created electronically or converted into electronic formats (National Archives of Australia, 2014). Therefore, the use of electronic files and data in most organisations is becoming predominant in information processing.

2.2 Electronic Records Management in Selected Countries

In this digital era, the proliferation of computers and information systems has triggered an endless generation of e-records (Kalusopa, 2016). Until recently, almost all records were on paper, but due to the revolution of computer-based systems and the internet technology, many organisations around the world are now conducting their businesses online which impacts the manner in which records are created, managed, and accessed (Asogwa, 2012). A similar

assertion was echoed by Simwaka (2022) when he postulated that with the advent and growth of computerised systems, records creation, and records capture have become easily manageable and innovative. High-tech gadgets and records management systems have spurred records pluralisation as the sharing of records is significantly affordable. For instance, in today's digital age, there is an ever-increasing flood of records generated through media such as computers, tape, and digital video disks (DVD) recorders in different formats (Ngoepe, 2008).

According to the Cayman Islands National Archives (2015), e-records can be created using computer software or even digitalised from existing paper-based records in the form of hard copies. The United Nations Economic Commission for Africa (2017), stressed that the creation and capture of records are integral to any organisation's business activities, processes, and systems. As eloquently stated by Kalusopa and Ngulube (2015), creation and capturing are records management processes in which data and information are created during business operations and recorded in recordkeeping systems so that they can be kept as accurate as useable proof of decisions, behavior, and transactions in organisations. In this regard, organisations must put in place deliberate measures to ensure that the required e-records are created and captured in records management systems (Sigauke, 2022).

Various studies and other related literature reviewed provide consistent results about the common types of e-records generated, received, and maintained in both public and private institutions around the world. Gama (2010), argues that the nature of organisation and its activities determines the types of records it generates and receives from other sources. For instance, a study undertaken by Kulcu (2009) compared recordkeeping processes in a Turkish university with two Canadian universities. It gathered required information about records management practices at Hacettepe University (HU) in Turkey, Simon Fraser University (SFU), and the University of British Colombia in Canada. The study results revealed that different kinds of records were created/ received in both paper and electronic form. These include emails, correspondence, forms, directories, reports, retention schedules, and database reports.

In Tanzania, the research findings of another study by Newa and Mwantimwa (2019), on e-records management in Tanzania public service: determinants, perceived importance, and barriers revealed that at the Records and Archives Management Department of Tanzania, e-records were available in the form of word-processed documents, spreadsheets, databases, audio-visual, and text files in PDF format. In short, the study results disclosed that government bills, workers' data, speeches, policies, standing orders, circulars, and reports were being created and managed in both electronic and print formats. Similarly, in Kenya, another research done by

Musembe (2016), sought to establish how records management can be used to support the business function of Moi University. The findings of the study revealed that the university generated various types of records in both paper and electronic form ranging from personal records pertaining to employment, staff development, students' records such as population, student welfare, performance, and disciplinary issues, administrative records, financial records such as research funds, grants, budgetary information, salary payments, statements of accounts, fees payments, reports, and expenditure receipts, architectural records such as building plans and maps, internal-external audit reports, committee records such as minutes, and records collaborations and memorandum of understandings.

In another study done in South Africa by Muchaonyerwa and Khayundi (2014), on the management of digital records in the Office of the Premier of the Eastern Cape Province, the findings of the study revealed that different types of digital records such as leave forms, records of benefits of employees, employee wellness records, and employee records of service condition, correspondence, dismissal and recruitment forms were being generated in the institution and underscored the importance of managing them. However, their study did not provide any information on the competencies of staff tasked with managing these e-records, particularly whether they possess the necessary training and expertise in that capacity. This gap is critical, as the efficiency of e-records management hinges on the knowledge and skills of the personnel involved.

In Kenya, another study undertaken by Ambira et al. (2019), investigated a framework for electronic records management in support of e-government. The study aimed to investigate how the current state of management of electronic records in Kenya facilitates or undermines the implementation of e-government with a view to developing a best-practice framework for the management of electronic records in support of e-government. The findings of this study are that there were considerable amounts of electronic records across government ministries in Kenya and that the electronic records created/generated in government ministries were predominantly transactional records which included born digital records and digitised records arising from format conversion of manual records into digital formats through scanning. It was also revealed that there existed considerable volumes of e-records received from citizens through emails, websites, and other online-based systems including e-government systems.

Furthermore, it was also mentioned in the study that even though the management of electronic records was acknowledged across the ministries as being central to the success of e-government, there have been little efforts to align the management of electronic records to e-government in

Kenya. It emerged from the findings that, records management practitioners in Kenya have done little to anchor electronic records within the e-government big picture. The conclusion about the research problem was that although managing electronic records was acknowledged as an essential driver of e-government, the integration of management of e-records and e-government was inadequate, which undermined the success of e-government.

In their study, Unegbu and Adenike (2013), also unearthed challenges of records management practices in the Ministry of Information and Strategy in Nigeria. The findings of the study established that the commonly created records were letters, directives, emails, reports, policy in procedure manuals, financial, legal, general maintenance manual, and historical or archival periodicals. In Malawi, another study by Chawinga et al. (2016), investigated thriving on the power of records in the perspective of Mzuzu University as a public university. The study results established that different kinds of records were being produced such as academic records, programme records, staff records, student records, project records, financial records, meeting minutes, memos, correspondence, student grades, and dissertations.

In related findings, another study undertaken in Malawi by Simwaka (2022), examined records management practices at the University of Livingstonia (UNILIA). The findings of the study established that the University of Livingstonia generates records in hybrid formats, that is, both electronic and paper records. The most produced or transacted records were minutes of meetings, grades/results, theses and dissertations, emails, reports, and financial records. Other records were memos, policy documents, technical documents, historical and archival documents, legal records, and conference proceedings. Though this study was recent and conducted in a developing country context, its findings cannot be generalised to other sectors as the study was only done at one institution, specifically the University of Livingstonia (UNILIA) in Malawi, which was not the case with the current study. In Zimbabwe, Sigauke (2022), also carried out a study on digital records management practices in the public sector in Manicaland Province. The findings of the study revealed that all government ministries were creating digital records in the form of word-processed documents, email messages and attachments, databases, spreadsheets, and images.

In Uganda, Luyombya and Ndagire (2020), carried out a study to investigate records management procedures and service delivery in Islamic University with the purpose of exploring the records management procedures at Islamic University in Uganda. The study reported that this private university generated records in the categories of correspondence, students' grades, policies, minutes of meetings, reports, contracts, and equipment documents.

Also, the study revealed that there were both paper and electronic records, but no documented procedures existed to create and manage them. However, there was a high level of concern and even fear regarding the procedures for managing the electronic records. Moreover, the study revealed that there were electronic records at the university and that the management of electronic records was fragmented, and vital records were in danger of being lost owing to the lack of documented procedures for managing them. It was therefore recommended that the university should arrange training and orientation sessions in records management procedures for both records managers and users and that all staff should be made aware of the basic records management procedures and techniques. Despite Luyombya and Ndagire's study providing valuable insights into the different types of e-records, they were institution-specific, thus limiting the generalisability of their findings. The focus of their study on a single institution in Uganda narrowed the scope of application, a gap the current study endeavored to bridge by investigating e-records management across multiple government ministries and parastatal institutions in Zambia.

The findings of another research in Ghana done by Akuffo and Adams (2016), which examined records management practices at the Trinity Theological Seminary (TTS), revealed that different types of records were being produced such as general correspondences, personnel records, memoranda, invitations, academic records such transcripts, certificates, and students' progress reports. In their study, Dano and Ibrahim (2021), also investigated the management of students' academic records in tertiary institutions in North-East Nigeria. The research results revealed that various kinds of records that were being created or received in both paper and electronic format at the institutions included personal and enrolment information, grades and final transcripts, applications for admission, acceptance letters, letters of recommendation, exam scores, and disciplinary cases. The findings further revealed that the major challenges facing the management of students' academic records in those institutions include the absence of comprehensive records management policies, guidelines, and standards procedures that are in line with the best practices, inadequate regulatory framework that spell out the types of student's academic records to be generated as well as their formats, inadequate training and retraining of staff, inadequate power or energy supply, insufficient funding, low qualitative devices used in the storage of students' records, among others.

In addition to that, Dano and Ibrahim (2021) suggested that there was a need for consistent training and retraining of managers of students' records in order to acquire the required competency in the use of new media in records management. There should be standard

procedures propelled by the new media in line with best practices for the management of students' academic records in higher institutions of learning. There should be adequate provision of sufficient funding and adequate power or energy supply and further recommended that there should be a drastic effort towards the provision of new media devices and the overall information infrastructure used in the management of students' academic records. While Dano and Ibrahim's study provided valuable information into the different types of e-records as well as the challenges and recommendations, it only concentrated on academic institutions, unlike the current study, which included government ministries and parastatal institutions.

Furthermore, the National Records and Archives Management Policy (2011), also stated that many kinds of e-records that can be managed by public institutions which include legislative records, court records, police and prison records, policy files, budget papers, budget papers, accounting records, procurement records, personnel records, tax records, election registers, and property and fixed asset registers. In addition, public offices can also keep e-records about entitlements such as pensions, social security records, land records, birth and death records, documents on relationships with other countries, correspondence with national and international bodies as well as loan agreements.

Nevertheless, Chaterera (2013), argued that regardless of the type of e-records created, received, and/or stored, organisations should ensure that e-records are properly managed so that they serve the purpose for which they were created. This can be done by establishing or putting in place a unit whose sole responsibility is to ensure that a conducive environment for records management is created. This unit should ensure that records in whatever format are effectively and efficiently managed systematically throughout their lifecycle. In the same breath, Bwalya (2010), also opined that the records management activities of an organisation should be assigned to an office that should be efficient and competent enough to discharge its responsibilities. He argued that entrusting all records management functions to record management departments makes coordination of records management functions across the organisation easy. In addition, more resources will be committed to records management activities by management.

Equally, in his study, Chaputula (2022) found that MZUNU University in Malawi had a well-established records management unit that handled the organisation's electronic records in addition to print records. However, no senior officer managing it, and records management personnel reported directly to the University Registrar. The absence of a senior officer to oversee operations of the records management unit could have serious repercussions in the management of e-records of the organisation.

2.3 Implementation of Electronic Recordkeeping Systems in Selected Countries

Over the years, due to technological advancements and the need for efficient information management, advanced systems aimed at enhancing records management continue being developed. In several countries around the world, literature has shown that both public and private sector players have deployed e-records management solutions to keep and manage electronic records. According to Bwalya (2010), while in some organisations e-records are kept in centralised and decentralised Database Management Systems (DBMS), Electronic Management Systems (EMS), and Document Management Systems (DMS), some e-records are kept on personal computers hard drives, Optical Discs (CD ROMs/DVDs), Magnet Tapes, and Flash Drives.

In Greece, for instance, an EDRMS called IRIDA was developed in 2020 by the Air Force agency. The developed system was piloted by the Ministry of Infrastructure and Transport with the sole purpose of replacing printed incoming and outgoing mail by providing integrated protocol, digital handling and archiving, processing services, and digital signatures (Lales, 2021). In another study, Nguyen et al. (2008) investigated the Australian public sector adoption of EDRMS. The study findings showed that an EDRMS commercial software called TRIM was the most popular recordkeeping system currently in use in around 93% of all surveyed organisations in the Australian public sector.

In Iceland, the research findings of a study done by Gunnlaugsdottir (2009) on the implementation and use of electronic records management systems in Icelandic organisations indicated that an ERMS was implemented in most Icelandic organisations but not fully utilised due to a lack of education on the usage. The findings further reported that managerial support alone, however, was not sufficient for the success of the project and that there was no difference regarding the success of the implementation in terms of whether the organisation was public or private. Nor did it matter which type of e-records management system was being implemented. The result could be a success or a failure. Success depended on how well each system was implemented. It further stated how employees of the organisations used the electronic records management systems, that is, how they registered records into the system and what search parameters they used to search for records. However, his study failed to provide actionable recommendations on how to ensure successful implementation and effective utilisation of the electronic records management system (ERMS).

In Jamaica, another study was conducted by Crooks (2015), on the implementation of an electronic records management system at a quasi-financial institution. The primary objective of the study was to identify and avoid the problems that generally lead to the choice of the wrong EDRMS system and how this system is implemented to help records managers and other types of information managers as they research on how to implement electronic records management solutions in their organisations. Crooks' study conveyed that the quasi-financial institution was managing its e-records using an EDRMS known as HP TRIM (a commercial software). The strength of Crooks' (2015) study is that it provided a framework on how to approach the implementation of an electronic records management system. Additionally, Crooks' study is vital to the current study as it highlights many challenges that records managers face when trying to implement an EDRMS, using the principles and practices of records management in the evolving landscape. These include a lack of a Checklist, a lack of records management expertise, and software issues, that is, the failure to ensure that users are comfortable with and able to properly use the system.

Furthermore, several studies conducted by Moatlhodi (2015) and Mosweu et al. (2016) in Botswana, also established that the Ministry of Trade and Industry successfully implemented an EDMS known as the Document Management Workflow System (DMWS) to improve the records management activities and procedures. In another exploratory survey focusing on records digitisation technologies and systems in the banking sector in Kenya, Malenya and Kwanya (2019) note that Kenyan banking institutions use various electronic recordkeeping systems and digitisation tools for the management of e-records including the EDRMS and Digital Imaging Systems (DIS) such as Kodak Capture Pro, Credit Quest (CQ) software and Sybrin system. In addition, software such as Straight Through Processing (STP), Image Clean-up and Enhancement, Optical Character Recognition (OCR) technology, and Barcode Recognition Software were also found to be used by financial institutions for the management of e-records.

Additionally, the study revealed the challenges banks experienced that come with the quest to digitise. These challenges include financial constraints on initial installations, inadequate personnel in the projects, poor handling of original documents and materials, and inadequate resources for sustaining the various technical support contracts. While Malenya and Kwanya's study presents a detailed analysis of the systems used within the banking sector in Kenya, it failed to point out the challenges encountered by the banks in the adoption and use of such systems. In addition to this, Malenya and Kwanya's study only focused specifically on one

industry (the Kenyan banking sector); no other sectors were covered, limiting the applicability of their findings to other sectors.

Conversely, another research conducted in one of the government departments in Ghana by Nyampong (2015) on electronic records management in national development, revealed that the Ghana Immigration Service (GIS) was not adequately ready for the adoption of EDRMS as both the technology and processes were not put in place. A similar situation was established by Luyombya (2010) who observed that specific electronic document and records management system (EDRMS) software was lacking in Ugandan Public Service (UPS) and yet this is a key requirement for effective records management in the digital era. Furthermore, in his study on the readiness of three Federal universities in managing e-records in Nigeria, Asogwa (2012) also noted that records in the surveyed universities were created with the aid of computer packages. The study further uncovered gaps in the creation of e-records in the three Federal universities in Nigeria following the absence of Electronic Document Management Systems (EDMS), Online Transactional Processing Systems (OTPS), and Decision Support Systems (DSS) that support the creation of digital records. On the contrary, Marutha and Ngulube's (2012) study found that the hospitals in South Africa utilised servers as storage media for e-records keeping ensuring their safety.

From the foregoing, it is evident that many government institutions and agencies in both developed and developing countries have been adopting and implementing e-records keeping systems to manage the creation, use, maintenance, and disposal of records created electronically for the purpose of providing evidence of organisational activities.

2.4 Policies, Standards and Legal Frameworks for Electronic Records Management

Laws and policies are vital in the management of electronic records (e-records). A records management policy can be described as an authoritative statement of intent to manage records in an appropriate and suitable manner for as long as they are required for business purposes (National Archives of United Kingdom, 2010). It is intended to form the initial framework or principles which express how records should be managed within the organisation. Sinha and Shenoy (2013) stated that like many other organisational activities or functions, records management also needs a policy that will need to be implemented as a guide in terms of formal organisational records management principles, best practices and procedures, records classification, disaster recovery, or management.

According to Kemoni (2009), legislation and policies for the management of information technologies and their products, including electronic records, are critical to a successful implementation of electronic records management. He further observed that most countries in the Southern Africa Regional Branch of the International Council on Archives region lack capacity and face various challenges in managing electronic records. These relate to a lack of policy, registration, and standardisation. Therefore, to enhance the management of e-records in the region, his study proposed that governments and directors of the National Archives should implement the recommendations proposed by various practitioners and researchers in the field, including the development and implementation of records management policies and laws.

As noted by Lee and Park (2018), records management policies are very important in any organisation as they allow information sharing among users. Netshakhuma (2019) also holds the same view stating that, good records management policies create a conducive environment for the effective management of records that promote information accessibility, sharing, and dissemination. In addition, other scholars such as Griffin and Kawa (2016) also posit that records have continuous use and uphold knowledge which should be governed by a well-defined records management policy. In fact, where a records management policy is missing, dependency on records is likely to be compromised in enhancing governance. Thus, well-developed records management policies have a positive impact on accountability and transparency in organisations. Ismail and Jamaludin (2009), further assert that records management policies assist the organisation in categorising or classifying their records in terms of their context and metadata as to the creator, type of business process transaction, and their relation to the rest of the other records. This enables the organisation to achieve information accessibility, control of growth of records, help to minimize litigation risk, and safeguard vital records. In addition, records management policies also help to guide the maintenance of the integrity and authenticity of the information it contains to ensure that it is trustworthy or usable throughout the life span.

In support of the above view, Patti (2011) also stated that a good records management policy provides guidance and direction on the records life cycle, right from creation. This would give leeway to records managers to identify the types of records in custody and provide security to them. When good records practices are carried out, there would be improved service delivery hence good governance (Obunde et al., 2022). Conversely, Mutsagondo (2017) opined that the lack of e-records management policies and guidelines undermines an organisation's attempts to manage e-records effectively and this, in turn, affects the operations of an organisation. For example, in the absence of clear and enforceable policies, programmes, and strategies, electronic

information would not be easy to access and retrieve over time. In the long run, the information might end up lost thereby causing problems for the institution.

Therefore, having realised the importance of policies and legislative frameworks in managing an organisation's records, many countries around the world have set forth policies, legislations, procedures, and standards with which to facilitate the smooth management of records that document evidence of business transactions. For instance, countries such as Australia, United States of America (USA), and Canada have put in place e-records management policies, programmes, and systems for the efficient management of records (Moloi and Mutula, 2007). However, this is not the case with many developing countries, especially those in Africa. Most government institutions, particularly in Sub-Saharan Africa (SSA) have not undertaken policy formulation, in relation to managing e-records, seriously. This was echoed by Kalusopa (2011) who reiterated that, although most countries in the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) region have attempted to put in place some programmes to manage records in general, there are no known clear legal frameworks in the form of policies that have been put in place, neither are there strategies initiated to manage electronic records or have e-records readiness assessment thoroughly carried out.

A study conducted by Rakemane and Serema (2018), on electronic records management practices at the Companies and Intellectual Property Authority (CIPA) in Gaborone, Botswana, with the intention of evaluating current electronic records management practices and recommending proper management of e-records, revealed that there were no policies and procedures to govern the management of e-records at CIPA. It was also discovered that there were several challenges that act as obstacles towards the proper management of electronic records at CIPA such as inadequate security measures, poor ICT infrastructure, lack of training for e-records management, technological obsolescence, lack of migration strategies as well as lack of integrated systems used for the overall management of e-records in the organisation. As such, the study recommended that CIPA should develop, document and implement policies, and procedures that govern the management of their e-records, send staff members for short courses or training on e-records management to assist them in understanding current trends in e-records management and increase the number of employees who are specifically trained in records management and having a background on e-records management, among others.

In Botswana, the findings of another study by Moloi and Mutula (2007), also indicated that e-records management is still in its infancy and is influenced by the structure of the public service sector. The findings further revealed that there was an ongoing computerisation program that

had influenced electronic records in the form of spreadsheets, databases, word-processed documents, e-mails, and websites. However, there was no infrastructure in terms of policy, legislative framework, strategies, and guidelines to support the management of e-records. Eze (2013), also carried out a study on the readiness of universities in managing electronic records in Nigeria with an aim of finding out whether the institutions had an information management policy, guidelines and responsibility for e-records creation. The findings indicated that universities in Nigeria did not have basic records management policies for managing ordinary records and did not consider having electronic records which are emerging and more challenging. Similarly, a study by Kyobe, Molai, and Salie (2009), which investigated on electronic records management and compliance with regulatory requirements at South African University also revealed a lack of policies and procedures in the way e-records were managed in the university.

In another study carried out by Luyumbya (2010), on a framework for effective public digital records management in Uganda, the findings of the study showed that while ICT-related policies have been developed in Uganda, digital records management policy or strategy was not existing within the country. In concordance with the above study, Mutsagondo (2017), also pinpointed that Zimbabwe does not have a national electronic records management policy. The findings of this study also revealed that public departments in the Midlands Province in Zimbabwe did not have in-house policies and guidelines for managing e-records. This meant that public officers were not fully equipped to manage e-records as they were not aware of their organisations' position on the management of electronic records. Consequently, it was recommended that public sector organisations should craft and implement clear in-house policies and guidelines to aid staff in carrying out records management processes in an efficient and effective manner.

Another study was carried out in Botswana by Porogo (2020) on a strategic framework for digital preservation capability maturity readiness in the context of e-government in the public service. In the study, it was acknowledged that the efficient and effective management of e-records and advanced content is a cornerstone of every e-government operation in any country in today's computerised world. In addition to that, the study findings revealed the lack of repositories and the absence of a preservation policy to be used for managing digital records. It was also discovered that Botswana public service did not have any plan to preserve their digital records in the cloud due to a lack of technical skills of records staff to advise on the benefits of preserving digital records so that they do not get lost but rather keep providing authentic, reliable, accessible and trustworthy evidence of the Botswana public service history. Porogo's

study is fundamental to the current study because it recognizes the importance of regulatory frameworks and policies in the management of digital records. However, Porogo's study did not mention any challenges faced by records management personnel in the management of e-records, a crucial gap the current study intended to fill.

On the contrary, the findings of a study conducted in South Africa by Mohlala (2020), on the implementation of enterprise content management system in the Western Cape government, revealed that the majority of the government departments have established formal electronic records management policies, and that staff were adhering to the policies. Dinah et al. (2019), also reported similar findings in their study on electronic records management readiness at the Kenya National Archives and Documentation Service (KNADS), which indicated that the policies had been put in place to guide the management of e-records at KNADS. However, it was observed that despite the existence of an e-records management policy, it was not adhered to mainly due to a lack of awareness of the availability of policies among the staff. As a result, Dinah et al. (2019) urged the Kenya National Archives and Documentation Service to provide appropriate training for the staff on concepts, principles, and proper management of records to enhance efficiency and effectiveness and remain at the cutting edge of the changing technological sphere. While their study highlighted the importance of policies in managing e-records such as providing guidelines on what is to be done, when to do it, why doing it, and how to do it, it did not state anything on the level of knowledge and training of staff involved in e-records management.

Additionally, Kanzi (2010), contends that the records management officers must ensure that the policies to do with the management of records are implemented in such a way that everyone in the organisation is familiar with them and that they should be reviewed at regular intervals to suit the emerging records trends in organisations. In the same tone, Chikomba's (2018) study also indicated that all records management functions such as the creation, use and maintenance must be subject to policy guidelines and personnel entrusted with the management of records in any format should be aware of the policies that govern their activities. In addition to that, Chikomba (2018) stated what results in operating without records and information management policies. These results include poor management of records, poor service delivery, poor resource allocation to the records section, little regard for the records management function and uncertainty about what to do, when, why and how. Also, it was discovered that lack of use of the records and information management policy sometimes resulted in failure to equip the records office in terms of human, material, and financial resources.

According to Matlala and Maphoto (2022) in many governments, policies and guidelines for managing electronic records are often not implemented or non-existent, and legislative framework is often weak or outdated. For example, the Zambian government launched a Public Service Records Management Policy in 2012 with the overall objective of providing effective and efficient records management services in accordance with international standards and best practices to ensure the provision of quality services (Public Service Management Division, 2012). The policy also disclosed that the government's long-term goal was to establish the best integrated E-based and reliable records management system that meets international standards and provides quality citizen-centered services. However, 11 years down the line, the endeavor by the government to meet the objective of the policy has not significantly been productive. Consequently, this has resulted in poor management of records, delayed decision-making, misfiling, unauthorized access to information, and an increase in incidences of fraud.

However, Rakemane and Serema (2018), opined that policies and procedures play a pivotal role in the management of records in an organisation as they shed light on how records should be managed within the organisation. It is, thus, imperative for government bodies to strive and establish and implement records management legislation, policies, and procedures for e-records as part of their records management strategies. Mnjama and Wamukoya (2007), affirmed that the existence of laws, policies, and procedures sets up a good foundation or a guide for the effective management of e-records in any organisation. For example, records management policies demonstrate to employees and stakeholders that managing records is important to the organisation, provide a statement of intentions that underpins a records management program, serve as a mandate for the activities of the records manager, and provides a framework for supporting documents such as procedures, business rules, and disposal schedules (IRMT, 2011). Conversely, Ndenje-Sichalwe et al. (2011) postulated that for organisations to properly develop or create effective records management policies, they need guiding documents such as local and/or international standards and Laws or Acts of their country of operation.

According to Newa and Mwantimwa (2019), laws and acts are very important ingredients to electronic records management readiness. Scholars such as Marutha (2019), and Pessa (2019), posit that legislation and regulations are legal documents, principles, rules, and laws that incorporate policies and procedures that provide the right of access, ownership, or service provision. However, in the ESARBICA region, various pieces of legislation in many countries do not include e-records; they have remained silent on whether e-records can be admissible as evidence in a court of law through proper management and preservation (Ngoepe and

Saurombe, 2016). Thurston (2015) argued that most African countries' archival and records management legislations are similar to those of their former colonial masters and have remained unchanged ever since they were enacted hence negatively affecting progress in the management of records. For example, a study conducted in Zimbabwe by Bhebhe (2015) showed that the country's national heritage is being lost principally owing to the archaic legislation that does not address electronic records management. Similarly, in Zambia, the National Archives of Zambia Act, Cap 175 of 1995 of the Laws of Zambia has not kept pace with the rapid changes in information technology. Kashweka (2013), argued that the Act was written with paper records in mind and with a simpler model of archival function and the role of an archival institution being that of the preservation of paper-based records. As a result, the options available to the National Archives of Zambia in dealing with e-records are constrained by the existing legislation.

Nevertheless, there have been recent improvements in the legal framework in Zambia where some new laws which allow for the admissibility of e-records as evidence in legal proceedings have been enacted. One such example is the Electronic Communications and Transactions Act No. 4 of 2021. Among other things, the Act provides a safe and effective environment for electronic transactions, facilitates electronic filing of documents by public authorities, and promotes legal certainty and confidence (Electronic Communications and Transactions Act, 2021). In addition, the Act also recognizes and allows electronic signatures to instill authenticity and integrity of e-records. Kulcu (2008), asserted that electronic signatures make electronic records have some characteristics of a record which give them legal validity. In the same tone, Marutha (2019), affirms that electronic signatures on e-records sharing have been legally accepted and thus may not be denied legal effect, validity, or enforceability merely because they are in electronic format. Furthermore, the other piece of legislation that influences the management of electronic records in Zambia is the Electronic Government Act No. 41 of 2021, whose prime objective is to enhance the management and promotion of electronic government services and processes; establish the electronic government division in the office of the president and provide for its powers and functions; and facilitate access to electronic government services to improve service delivery, administrative functions and productivity in order to enhance citizens access to government services and information (Electronic Government Act, 2021).

Mazikina (2009), also submits that many countries have reviewed and/or made amendments to their archives and records legislation to accommodate emerging issues such as management of

e-records and the role of records management in enhancing accountability and transparency in public institutions. For example, the Electronic Evidence Act of 2009 in Swaziland, the Public Records Act of 1958 in United Kingdom, the Public Records Act of 2005 in New Zealand, the Information Technology Act of 2000 in India, the Public Records Act of 2011 in Scotland, the Government Paperwork Elimination Act of 1998 in USA, the Archives Act of 1983 in Australia, Public Records Act of 1912 in Canada, Public Records Act of 1834 in England, Electronic Records (Evidence) Act of 2014 in Botswana, the Communications (Amendment) Act of 2008 in Kenya, the National Archives and Records Service Amendment Act of 2001 in South Africa, the Archives Act of 1992 in Namibia, the Records and Archives (Amendment) Act of 2007 in Mozambique, and the Electronic Transactions Act of 2015 in Tanzania (Matongo et al., 2013; Ngoepe and Saurrombe, 2016; Chhabra, 2015; Dulley, 2017; Kamatula, 2018).

However, Marutha (2011), in his study on records management in support of service delivery in the public health sector of the Limpopo province in South Africa, found that despite creating, receiving, and managing electronic records, most members of staff were not aware of the legal frameworks that guide the management of records in their departments. Thus, records were not kept or managed in accordance with legal requirements, a situation which seriously compromised their management. Consequently, Okello-Obura (2012), stated that it is important for institutions to enforce compliance with laws and regulations regarding e-records management systems. This is because various laws and regulations specify exactly which types of records may be retained for different periods of time. In the same vein, Mosweu et al. (2016), also argued that managing records in compliance with legislation and policies is not an option but an obligation for public sector bodies despite the difficulties of managing records in electronic form. It is therefore important that proper records management programmes should be anchored in appropriate legislative and policy frameworks which are necessary for providing guidance for the successful creation, processing, storage, and preservation of records and archival materials (Samwel et al., 2012). For instance, the findings of a study conducted by Mohlala (2020) in South Africa, revealed that all the staff were familiar with the legislative frameworks that govern the management of records and complied with them.

Furthermore, various standards have also been developed by many organisations at national and international levels to assist organisations in managing their e-records. According to Ambira (2016), a standard is a published document with scientific and technical literature that sets out specifications and procedures designed to ensure that a material, product, process, method, or service quality complies with, is fit for its purpose and performs in the way it was intended to.

On the other hand, Chang'a and Mwilongo (2022), stated that e-records standards are those that have been developed to control and guide the records transaction and management function. However, as noted by Newa (2017), standards are important tools for e-records management because they help to provide a framework and guidelines on how records should be managed within an organisation.

For instance, one of the most well-known e-records management system standards is the United States Department of Defense (DoD) 5015.2-STD standard which was developed in 1997 and revised in 2007. The DoD 5015.2-STD is more of a set of functional requirements for records management software applications (Department of Defence, 2005). It sets the mandatory baseline functional requirements and identifies non-mandatory features deemed desirable for e-records management systems used by US Department of Defense organizations in the implementation of records management programs, defines required system interfaces and search criteria, and describes the minimum records management requirements that must be met. Although the standard was designed specifically to meet the US Department of Defence recordkeeping requirements, it is spilling over into the private sector as well as across the globe (Department of Defence, 2005).

The European Model Requirements for the Management of Electronic Records (MoReq2010) is another important standard. The MoReq2010 was published in 2011 by the DLM Forum (a community of public archives and other parties interested in archives, records, and information management throughout the European Union), with the support of the European Commission (European Commission, 2005). It builds on MoReq2 of 2008 to deliver a more adaptable and scalable set of requirements for an electronic records management system, which can be adopted by all types of organisations in both the public and private sectors. It also introduces several new concepts including entities, aggregations, and event histories. Other standards for e-record management systems include the International Standard Organisation (ISO). ISO 15489-1 Information and Documentation-Records Management – Part 1: General, the British Standard (BS) 10008:2008: Evidential weight and legal admissibility of electronic information – specification, the International Standard Organisation (ISO). ISO 16175-2, Part 2: Guidelines and functional requirements for digital records management systems, and the Australian standard (AS ISO 15489-2002) for a best practice approach to recordkeeping within the Commonwealth nations (Ambira, 2016).

According to Asogwa (2012), standards may assist organisations to benchmark in developing their own effective policies and procedures. However, in many African countries including

Zambia, there is still a lack of understanding of modern and international standards for records management. For example, in a study done by Ambira (2016), on a framework for the management of electronic records in support of e-government in Kenya, the findings revealed that there was no single ministry in Kenya that had adopted any form of standard for the management of electronic records. Similarly, the findings of a research carried out by Chikomba et al. (2020), on the management of digital records in selected financial services parastatals in Zimbabwe, revealed that no financial services parastatal in Zimbabwe had adopted any electronic records management related standards. On the contrary, in his study, Kashaija (2019), found that Canada had successfully implemented the International Standard Organisation (ISO) 15489-2001 and the Department of Defence had met the 5015.2 standards for the Electronic Document and Record Management Systems (EDRMS) in public offices aimed at enhancing e-governance.

Nengomasha (2009), stressed that relying on recognized e-records management system standards is a preventive measure against potentially devastating effects of hardware and software incompatibility, coupled with rapid obsolescence of technology. Thus, failure to comply with set standards may compromise the quality in which e-records are created, used, maintained, and disposed of. It is therefore imperative that government ministries and agencies adhere to e-records standards and functional requirements to ensure that ICT systems consistently create, capture, organize, store, search, retrieve, and preserve e-records and protect their integrity and trustworthiness (IRMT, 2009).

It is evident from the literature above that in order for the government ministries and parastatals to successfully adopt and implement e-records management initiatives and be able to achieve their stated goals, they must develop and implement sound policies, laws, and standards for managing information in electronic form. Oktal et al. (2016), recommend that developing effective laws and policies to guide information management, such as public records laws legislation, archival legislation, access and privacy policies, policies on usage of electronic systems, and then inspecting them fairly is of vital importance in promoting system usage.

2.5 Knowledge and Training of Staff in Electronic Records Management

According to Nyampong (2015), the challenges brought about by new technologies in general and e-records management in particular require that records and archives management staff be equipped with new skills and competencies through training to be able to effectively operate and undertake projects in an e-environment. Segatsho and Mnjama (2017), stated that knowledge

and skills for every profession are vital in equipping human beings with informed planning and decision-making. The lack of trained records managers and staff in governments affects the operations or practices necessary for the effective management of electronic records (Kamatula, 2010). Consequently, to manage e-records effectively, there should be the availability of trained staff, basic supplies, and money. Mosweu and Ngoepe (2019), also posit that electronic records generated through various information systems in the realm of e-government have to be managed by personnel with the right knowledge and skills.

However, the apparent situation in most developing countries including Zambia today is that a lot of staff managing records are not capable of managing e-records professionally. According to the Western Cape Government (2018), there is a general dearth of expertise in certain technical areas concerning records management in most developing countries. This relates to a lack of training on the use of new technologies to promote organisational efficiency. Asogwa (2012), affirmed that the evident paucity of training in e-records management in most developing countries is in stark contrast to the situation in the developed countries, where there is a well-developed professional education and training tradition.

In their study on the education and training of archives and records management professionals in Africa, Katuu et al. (2017) pointed out that in many African countries, most of the archives are not thoroughly equipped to function in the modern information era as electronic records require individuals knowledgeable in archival practice and theory, and who have specialised knowledge of computers and related technology. The study reported that the curricula of most African universities do not comprehensively cover the management of digital records and that education, research, and training in archives and records management have been given little attention in most African countries. Moreover, another research conducted by Ngulube and Tafor (2006), on the management of public records and archives in the member countries of the East and Southern African Regional Branch of the International Council on Archives (ESARBICA), revealed that only 36.7% of staff had qualifications directly related to either library and information science, or records and archives management; 63.2% of the staff had qualifications that were unrelated to library and information science, or archives and records management. This could have a negative impact on the provision of an effective records management service because some of the staff members had not received appropriate training to effectively perform records management and archival administration duties.

In their study, Newa and Mwantimwa (2019), found that most staff lacked practical knowledge needed in electronic records management. The authors further stressed that staff members

needed practical training to familiarise themselves with IT equipment used in managing e-records. Newa and Mwantimwa's study is also vital to the current study, in that, it highlighted the critical role that skilled personnel play in managing e-records. However, their study did not provide any information on the legal frameworks and standards that govern e-records, which was one of the key aspect of the current study. Similar results were also reported in Zimbabwe by Sigauke (2022), who established that records officers and those involved in the management of digital records lacked the practical skills required in the creation, capture, metadata management, classification, storage, disposal, and preservation of digital records as well as basic ICT skills required in the management of digital records. This was compounded by a lack of training and retraining of staff with a particular focus on digital records management. Furthermore, IRMT (2009), also reiterated that most governments do not have enough knowledge of how to manage e-records, because even the officials engaged in creating and receiving these records are uncertain about the importance of those records to the government body.

In another study conducted by Kamatula (2018), on a framework for e-records in support of e-government implementation in the Tanzania public service, it was also established that records personnel, action officers, and IT staff were not conversant with procedures and practices of e-records management and had inadequate knowledge and skills pertaining to e-records and its related systems, including metadata identification in e-records, procedures for e-records storage, distribution and disposition. As a result, governments experience a slow implementation of e-records management and e-government. Likewise, Owino and Namande (2022), in their study on records management practices and service delivery at the pensions department in Kenya, the findings established that staff were provided with the machinery and equipment they needed to perform their duties. Despite these efforts, it was further noted that staff were receiving less training in records management, hence there were skill gaps and a lack of new skills and knowledge on emerging trends. Consequently, it was recommended that adequate resources should be provided not only for equipment acquisition but also for training to equip staff with new skills.

Mulauzi et al. (2012), posits that the move to information technology has created new skill requirements that need to be addressed as a matter of urgency to protect and preserve the records as evidence for operations and to protect citizens' rights and entitlements. The various competencies and skills that are required of staff working in an e-records environment as noted by Wamukoya and Mutula (2005) include, records and information management skills, project

management skills, technology skills, and managerial skills. Other e-records management skills needs include but are not limited to, creation, capturing, classifying, indexing, storing, retrieving, tracking, appraising, preserving, archiving, and disposing of records in an electronic environment. IRMT (2011), opined that these need to be complemented by knowledge of the e-records environment; knowledge of e-records management practices and trends; knowledge of the types of electronic records including web pages; and knowledge of IT applications for records and archives management.

According to Kamatula (2011), people need to be capacitated through training and education with the skills, knowledge, and ability to establish the necessary records-keeping infrastructure. This may be accomplished through in-house training, workshops, vendor-sponsored programmes, professional seminars, as well as college or university-level courses. Thus, in organisations where staff competency and skills are not developed, the survival of the organisation is not assured. On the other hand, qualified and well-trained staff will lead the organisation to an advanced stage in terms of operation, growth, and quality of work. On a similar note, Wamukoya and Mutula (2005), posit that if records and archives management staff are not equipped with the skills and competencies through training, there could be government ineffectiveness, increased operating costs, gaps in recorded memory, reduced public access to entitlement, erosion of rights, and weakened capacity for decision making, as well as failure to account to the court and the legislature that they are committed to rooting out corruption and malpractice (IRMT, 2009).

Additionally, Rinehart et al. (2014), submit that the scarcity of requisite skills in e-records management signifies peril to the digital world, which could result in problems such as the mismanagement of records, delayed and poor service delivery, lack of accountability, and frustrations on the part of the public, who could be directly impacted by such inefficiency. It is for this reason that Kavishe and Dulle (2016) espoused that the training of information management professionals in the 21st century where much of records are created and managed by computer technologies is an important tool. They argued that due to fast changes in information technologies, it would be problematic for information management professionals to provide appropriate services without any ongoing training. Dikopoulou and Mihiotis (2010), also concur by stating that records personnel at all levels require appropriate training, not only to acquire new knowledge and skills but also to gain confidence in what they do. Therefore, training must be relevant and ongoing, and it must include both formal and informal approaches such as on-the-job training.

According to Kwatsha (2010), effective training is key to getting the buy-in of the stakeholders at all levels. Once employees are given enough training, they will fully understand the system and how to interact with it. This will help them perform their work within the new environment. He added that training is a necessary component and should include the training of system administrators, workflow administrators, system users, and trainers amongst others. Thus, government departments and agencies need to ensure that the required skills and competencies are present to manage their electronic records. This requires both the creation and filling of appropriate staff positions. In addition, there should be adequate transfer of knowledge by systems providers (National Archives of Namibia, 2007). In this regard, the success of implementing any system depends on knowledgeable and appropriately skilled records management specialists and ICT support staff working in close cooperation.

From the foregoing, it can be deduced that the absence or inadequate training of information management professionals in e-records management has a direct negative bearing on the success of any organisation in attaining its intended goals. This then suggests that the effective implementation of e-records management will not be achieved unless employees acquire the skills and the techno-how.

2.6 Information and Communication Technology Infrastructure for Electronic Records Management

According to Chisita (2010), Information Communication Technology (ICT) infrastructure is an omnibus term that embraces overall technologies that are deployed for the collection, storage, organization, and communication of kinds and forms of information. It includes all kinds of technologies such as telephone, computer, hub, printer, scanner, television, fax, codec camera, projector, radio, Video CD, audio tape players and microphone, and software that includes Windows, MS Office, and others. In other words, it refers to a group of shared, physical ICT resources that offer a foundation to facilitate existing and future business applications. These resources include the hardware or equipment, software applications such as operating systems, connectivity, and other services associated with ICTs, including telecom networks (Alghamdi et al., 2011). Additionally, ICT infrastructure also includes the provision of networking and connectivity systems such as Local Area Networks (LAN), Metropolitan Area Networks (MAN), Wi-Fi Networks, and Wide Area Networks (WAN) using modern fiber optic cable to deliver high-speed Internet connection (Mwawasi, 2014).

In today's digital world, the ICT infrastructure is a platform for the proper mechanisation of production lines, and operations and improves service delivery of organizations. Ani et al. (2016), affirmed that for the efficient functioning of the system, critical thinking and strategic planning, as well as the required investments must be put into the acquisition, deployment, and management of the automation of an organisation. The quality and adequacy of the ICT infrastructure are of great importance to the successful implementation and management of ICT-based projects (Adjei, 2020). IRMT (2009), reiterates that reliable and secure ICT infrastructure is something e-government initiatives cannot succeed without.

Consequently, adequate ICT infrastructure for managing e-records created out of e-government services is very crucial. For example, in his study, Maulid (2015), found that computer hardware and software, internet, scanners, CD-ROMS, mobile phones, and audio recorders were very important e-records management facilitations. However, in most developing countries, the use of ICTs has not been promoted to ensure wider dissemination of information in digital records. As noted by Moloi and Mutula (2007), despite the strategic role of e-records in the efficient and effective running of an organisation, the management of e-records in many developing countries including Zambia is often hampered because of a lack of ICT infrastructure such as adequate power supply, reliable telecommunication systems, and computers among others. In connection to this, the Asia-Pacific Telecommunity (2012), also lamented that many developing countries suffer from the digital divide, and are not able to install the suitable ICT infrastructure for e-government initiatives deployment.

For example, in their study, Nasieku, Kemoni, and Otiike (2012), indicated that Moi University had inadequate ICT infrastructure and resources to cater for e-records management. They indicated that the factors for such inadequacy were lack of adequate funds to purchase hardware and software, the benefits of using ICT to manage records were not well recognized and lack of administrative will for making policy decisions regarding the management of e-records at Moi University. In another study, Nkala et al. (2012), also echoed the same views that the National Archives of Zimbabwe (NAZ) does not have adequate ICT infrastructure including hardware and software to cater for e-records preservation. While their study remains relevant to the current study in the sense that it provided important information on the most commonly encountered challenges in managing electronic records such as lack of adequate ICT infrastructure, it did not delve into the extent to which electronic records were being kept or how effectively they were being managed in public sector organisations. In addition, their study also did not mention if any efforts were being made by the government in terms of providing

standards to support e-records management, a vital knowledge gap the current study endeavored to fill.

In addition, in his exploratory study focusing on enhancing the adoption of e-government initiatives in Tanzania, Yonazi (2010), noted that some of the factors that impede the effective adoption of e-government initiatives in Tanzania include the unavailability and unreliability of ICT and telecommunications networks and computers, and lack of optimization of the existing infrastructure. Similarly, Issa and Wamukoya's (2018), study aimed at assessing the role of electronic records management in promoting the delivery of justice at Dar es Salaam Commercial Court in Tanzania. In their study, they concluded that the infrastructure and systems used for electronic records in the court were not fully effective for records management purposes. This is so because the court had inadequate computers to aid the management of electronic records and very few of them had wireless internet connections. On the contrary, the findings of another study conducted in Zimbabwe by Chikomba et al. (2020), indicated that the availability of proper and adequate infrastructure and resources in various financial parastatals was being availed. The authors noted that there was a rise in the procurement of IT infrastructure which is essential for e-records management.

In concurrence with the above study, Kamatula (2018), who conducted a study on "A framework for e-records in support of e-government implementation in the Tanzania public service", discovered that the government of Tanzania has made commendable efforts on the aspect of ICT infrastructure; all public offices were installed with a number of ICT tools including computers, Local Area Networks, internet facilities, fax machines, printers, telephones and have functioning ICT departments. It was further established that the government of Tanzania has built the national optic fibre backbone to network all ministries, departments, agencies, and regional administration hence making it possible to connect them to internet which enables them to install and utilize modern technology communication facilities such as teleconferencing services.

From the literature above, it can therefore be concluded that without the deployment and use of appropriate ICT infrastructure, it would be difficult if not impossible to implement e-records management. Therefore, the successful implementation of e-records management in government ministries and parastatals especially in developing countries like Zambia depends on the availability of proper, relevant, and adequate ICT infrastructure and resources.

2.7 Challenges in the Management of Electronic Records

Globally, there are numerous challenges and barriers that make it difficult for many countries to adopt and implement e-records management. Therefore, it is important to understand the challenges of e-records management. There are several challenges in e-records management. These include:

2.7.1 Inadequate/lack of Policy and Legislative Framework

Mohlala (2020), argued that the increasing use of technology to manage and preserve e-records has significantly changed the way information professionals conduct their business. As such, policy and legislative provisions regarding the management of e-records become crucial in terms of providing guidance and assisting governmental bodies to manage records in accordance with appropriate procedures and standards. Nevertheless, it is very interesting to note that while many governments have systems and procedures for managing paper-based records, the same cannot be said for e-records (Mnjama and Wamukoya, 2007). In many countries around the world, but particularly in the ESARBICA region where Zambia is part, the absence of relevant legal and policy framework remains a major challenge in e-records management. For example, Asongwa (2012), postulated that the implementation of e-records management initiatives fails to succeed because governments fail to assess the suitability of available legal and policy frameworks for electronic records management and to convince record managers that automation is not a threat to their careers so that they fully accept and implement it.

In Tanzania, the findings of Kamatula's (2018), study revealed that there were no specific policies for e-records management in the public service. Instead, the government uses circulars and guidelines that are issued by the government from time to time in providing institutional and operational guidance and compliance concerning e-government implementation initiatives in the public sector. This would therefore mean that public offices in Tanzania were creating, organising, maintaining, and disseminating their e-records using personal initiatives without any guidance. In this regard, it can be argued that the management of e-records is not sufficient and the security of such information is endangered. Kemoni (2007) further indicates that a lack of records management policies would obstruct the role of public service providers thereby leading to unaccountability since it would be too difficult to track an organisation's activities and functions. Luyombya (2010), further adds that in the absence of clear and enforceable policies, programmes, and strategies, organisations are likely to face several challenges such as loss of

data, poor accountability as well as failure to access and retrieve required information stored in the electronic environment over time.

According to Rakemane (2017), one of the major means of dealing with issues pertaining to the management of e-records is to formulate policies and strategies dealing with e-records. ISO 15489 (2016), further reiterates that the policy aspects for management of e-records need to be addressed in terms of formulation, dissemination, and implementation. In light of this, the University of Sheffield (2014), postulated that the function of an e-records management policy is to determine the nature and type of records to be managed, the competencies required of the personnel, determine disposal schedule, protect the legal integrity of the organisation to avoid litigation, and ensure compliance within the organisation. Additionally, Adamu (2016), points out that an urgent step that starts with a policy formulation must be taken if the future of e-records must be ensured.

It is, therefore, imperative to note that, introducing a new way of managing records, the policy and legislative framework should be considered first because working against the law may lead to several challenges and problems. This sentiment is supported by Rakemane and Serema (2018), who asserted that the absence of policies and procedures to guide creators and users of e-records poses many challenges that can result in the loss of e-records that can be used for various platforms such as providing evidence of a transaction.

2.7.2 Lack of Qualified Staff and Training

To successfully implement an e-records management project or system, government departments and agencies should have staff with skills and knowledge of e-records management and/or ICT application on e-records management because these professionals can help the organisation or authorities better manage its information resources. It is interesting, however, to note that most developing countries including Zambia have paid little attention to the training of information professionals, more so in e-records management. This point is also stressed by Ngulube (2007), who argued that the transition from paper-based records to electronic records is happening at a time when many records managers in Sub-Saharan Africa do not have the necessary skills to deal with e-records. According to Chikomba (2018), even if government departments manage to develop policies and procedures and adhere to standards while putting in place the required infrastructure and providing resources for the management of electronic records, their success will still be incomplete if the staff entrusted with managing records do not have the necessary skills, knowledge, and experience. Further, Harris (2007) avers that, as staff

members in government entities are not qualified to deal with electronic records, in practice many government departments simply destroy records when they are no longer required for current needs.

The practical situation is that there are few or no countries in Sub-Saharan Africa where archivists and records managers have acquired all the basic skills and competencies in readiness for electronic records management. For example, Asogwa (2012), posited that in most organisations, records keepers and archivists are not professionally trained in records management, rather, they are recruited with their secondary school leaving certificates and from there, they climb up the ranks and become records managers either through promotion or by seniority without formal training in archives and records management, which in turn, poses many challenges in managing information of an organisation leading to poor service delivery. In their study, Nkala et al. (2012), also found that government departments in Zimbabwe were managing e-records according to systems that best suit their institutions due to many factors which included the lack of skills required for proper e-records management.

Similarly, Nasieku et al. (2012), in their study on the management of e-records at Moi University in Kenya, revealed that only 10.6 percent of personnel were trained in e-records management. The study recommended that effective management of records was dependent on staff receiving training on e-records, appraisal, and proper disposition of records more in the electronic environment. In addition, a similar study by Keakopa (2008), found that there was a shortage of fully trained records management staff in South Africa. For example, only one person was self-trained in electronic records management in every government institution. However, the lack of skills in managing e-records could increase the risk of information loss, increased costs of managing records and decentralisation of information, increased need for IT specialists, as well as risk to reliability and authenticity of records and security or privacy. Therefore, the rise in the creation and use of electronic records brings the need to update academic programs for education and training records managers. As noted by Kemoni (2009), the most obvious way for records managers in government institutions to enhance their resourcefulness is through education. This is so because well-trained and motivated staff members are critical of the successful implementation of an e-records management initiative. It is evident that competencies alongside motivations and other supporting infrastructure matter when it comes to the adoption and integration of e-records.

2.7.3 Inadequate Information and Communication Technology Infrastructure

The successful implementation of the whole e-government framework requires a strong technological infrastructure. However, many countries around the world, especially those in Africa, do not have adequate IT infrastructure to successfully deploy e-government projects (Baheer et al., 2020). For example, in his study, Matangira (2016), noted that government ministries in Zimbabwe had not properly invested in adequate ICT infrastructure to advance electronic records management. Additionally, Mulauzi et al. (2012), were of the assumption that the constantly changing arena of technologies has also posed a great challenge to developing countries like Zambia that find it difficult to keep up with regular upgrades in both software and hardware. Consequently, many institutions are left with older versions of important software that become difficult to use due to compatibility problems. This position is also shared by Asogwa (2012), when he argued computer hardware and software manufacturers mostly in developing countries increase their market share by introducing new products with new features and enhanced capabilities. As a result, organisations or consumers are likely to upgrade their systems frequently and to completely change computing systems every few years if their records are going to be accessible and relevant in the future. According to Lai et al. (2018), an organisation's ICT infrastructure and its capabilities significantly enhance the adoption of new technologies like e-records management.

Benitez-Amado and Walczuch (2012), stressed that the ICT infrastructure capability is the firm's ability to leverage its technical and human IT resource infrastructure. Nonetheless, IRMT (2011), highlighted that critical to all IT systems and networks are adequate power supplies, robust networks, sufficient bandwidth, suitable technical support, and effective computer backup systems. In this regard, it is worth mentioning that for an organisation to successfully transition to e-records management, a robust and secure technical infrastructure is needed. Conversely, if the ICT infrastructure is inadequate, it will be very difficult to manage e-records produced in government departments and agencies.

2.7.4 Lack of Senior Management Support and Corruption

Top management support and commitment play a very significant role in the successful adoption and implementation of e-government initiatives such as e-records management. According to Alshehri and Drew (2010), top management support refers to the commitment from senior management in organisation to provide a positive environment that encourages participation in e-government applications. Without support from the top management, an

innovation is less likely to be adopted (Kagoya and Mbamba, 2021). For example, the lack of senior management support on e-records management practices was seen by Ngoepe and Ngulube (2016), as the main problem relating to the low level of implementation of e-records management in a systematic and organised way. On the same note, in Zimbabwe, Matangira (2016), in his study found that the lack of senior management support in the public service jeopardised the management of records as it was accorded a low profile.

Another recent research carried out by Mutsagondo (2017) in Zimbabwe reported that the lack of top management support in the public sector was evidenced by the lack of a budget for records management activities while other sections such as Finance and Human Resources (HR) had their budgets. Additionally, Mutsagondo unfolded the sad reality in his study that senior officials tend not to recognise the need for effective records management as well as the importance of records as evidence of the organisation's activities. Furthermore, Guto and Jumba (2021), brought out other gloomy challenges in their study that corrupt leaders in Africa do not provide adequate funds, facilities, and infrastructure for proper and efficient e-records management. Instead, corrupt bureaucrats intentionally distort public policies, public records, and decision-making apparatuses, and sometimes go to a length to transfer experienced records managers in a bid to create opportunities for embezzlement. Lawal (2007) also agreed with this view when he stated that, politicians and bureaucrats in developing countries are more interested in enriching themselves than in providing the services needed to their citizens; and as such performance in delivering services to citizens has been considered to be weak. In addition, Mnjama (2014), further propounded that there is a direct link between poor record-keeping practices and corruption. He pointed out that among other root causes of corruption is the lack of good record-keeping practices and failure by the government to institute measures that will ensure records are well managed.

2.7.5 Inadequate/lack of Funding

The paucity of funding is also another gigantic problem that can impede the effective implementation of e-records management in most government departments and agencies. In the developed world, many organisations are making significant progress toward the implementation of e-records management initiatives. For example, the Australian National Archives (ANA) successfully implemented an e-records management programme because, over 80 percent of the budget was dedicated to staff training alone (Asogwa, 2012). In contrast, most countries in Sub-Saharan Africa are crippling to fund their e-records management initiatives except for a few countries. For instance, in Uganda, Luyomba (2010) found that lack of

adequate funding was one of the challenges facing the public service in the management of e-records. Related results were also reported in other several studies by Rakemane and Mosweu (2020), Mampe (2013), Mulauzi et al. (2012), and Kamatula (2008) who found that the funding needed to accomplish records management activities, including supporting the management of electronic records and taking care of records and archives, is a necessity neglected in many countries in sub-Saharan Africa.

Further, Ziba and Kang (2020), opined that many government institutions lack financial muscle in the implementation of e-government projects resulting in a funding dilemma even if governments have plans for the implementation of e-government. Because of this, most ICT-related projects particularly in the continent of Africa are financed by donors (Mahlangu and Ephias, 2021). However, Khadaroo et al. (2013), contended that the reliance on donor support for e-government implementation often results in untenable funding in the event donor support is terminated; thus, impeding progress in the implementation of e-government initiatives. Therefore, for developing countries like Zambia to implement e-records management systems successfully, far-reaching financial and human resource measures have to be available. On the contrary, a lack of committed financial resources renders any e-records management strategy ineffective and unsustainable. Similarly, Chikomba (2018), stressed that unless adequate funding is put in place, proper digital records management programmes will not be achieved. Felesia et al. (2015), were also of the same view when they argued that records management programmes are doomed to failure without sufficient funding and other administrative support, such as staff, equipment, stationery, and procedure manuals. Conversely, Lyaruu (2021), holds that records handled as part of a records management programme require the availability of adequate budgets to carry out all tasks involved and to finance appropriate equipment and supplies.

2.7.6 High Cost of ICT and Maintenance

In many African countries, the cost of making new purchases and maintenance of old ICT equipment is yet another drawback towards the implementation of efficient e-records management initiatives, especially for those organisations which are already struggling to stay within budget allocations. For instance, the initial cost of technology, which includes hardware such as workstations, servers, cabling and storage media and software, which includes database programs, operating systems, and network managers, coupled with the ongoing expenses of maintaining and upgrading them to avoid obsolescence are very prohibitive and several people cannot afford them (Otieno, 2015). Musangi (2012), further observed that among the main

obstacles affecting ICT diffusion is the price that is charged to end-users by ICT service providers for ICT access.

For example, in most developing countries including Zambia, very few organisations have staff with the technical know-how required for the maintenance and repair of equipment. As a result, organisations are left with no choice but to engage a third-party company which must be paid a huge sum of money for the services being provided to the organisation such as consultancy services (e.g. advise on how the implementation process of e-records systems should be undertaken), and on the maintenance of the hardware and software applications. This, in turn, becomes a major burden for most organisations, especially in developing countries, where there is a paucity of financial resources (Bwalya, 2021). Conversely, organisations that are unable to outsource technical manpower often have several of their equipment either stored away awaiting repair or not functioning properly. Furthermore, it is imperative to note that transferring records from older proprietary systems called legacy systems to current technology may require substantial reformatting and restructuring of the records. Not only is such a process expensive, but it may require substantial changes to the structure and format of e-records that compromise their integrity as evidence (Asogwa, 2012).

2.7.7 Poor/non-availability of Electricity

Poor electricity supply or non-availability of electricity is yet another barrier to the successful implementation of e-records management in most developing countries. Government departments and agencies need reliable electricity to operate all kinds of technologies such as computers, hubs, printers, scanners, fax, Video CD, Local Area Networks (LAN), Metropolitan Area Networks (MAN), Wi-Fi Networks, and Wide Area Network (WAN). However, poor power supply and low income levels limit information and communication technology coverage in many African countries (Armey and Hosman, 2016). For example, in his research, Kamatula (2018), established that unreliable power was one of the challenges for effective e-records programme in public offices in Tanzania. In addition, the findings of his study further revealed that the United Republic of Tanzania faces an energy shortage, particularly in electricity because there exist insufficient power generation capacities, as well as inadequate transmission and distribution of infrastructure. This, therefore, gives credence to the fact that the availability of electricity is fundamental in the successful implementation of e-records management in government institutions and agencies, as it offers support to internet and ICT access.

2.7.8 High Resistance Towards Technology

One of the most significant barriers to the successful implementation of e-records management in most developing countries is the acceptance of the system by its intended users. This sentiment is supported by Furxhi (2021), who elaborates that the resistance of employees is one of the most serious obstructions to the implementation of change initiatives in organisations. According to Jones and Ven (2016), a shift from a known organisational structure to a new structure may cause resistance to change. In this digital era with fast technological development, there is a serious problem of technophobia in most offices in Africa, especially among older employees. Due to their low level of education and lack of skills, many information professionals are very conservative and have a phobia about computers.

For example, a study by Akbulut (2011), on an investigation of the factors that influence electronic information sharing between state and local agencies in Louisiana, United States, revealed that many employees in local governments were not very well-trained in using information technologies and this inadequate training resulted from resistance to change, resistance to use, and the inability to utilise information technologies to their capacity. Moreover, scholars such as Ayoku and Ojedokun (2008), have associated the slow take-off of e-records management initiatives with generation gaps between new and old professionals. These authors argued that older professionals find it difficult to cope with the requirements of the electronic age, and at the same time, they are too reluctant to jettison the old practices in exchange for new ones. They also perceive e-records management as a threat to their status as experts.

Nonetheless, Ojedokun (2008), opined that successful application of information handling technologies in the management of electronic records in developing countries requires an ability to overcome staff and personal resistance. For example, people should be trained on how to use the system and how they are going to benefit from the new system. Furthermore, Ifinedo (2005), argued that all countries in Sub-Saharan Africa apart from South Africa and its neighbours have a poor e-readiness score. This is evidenced by the fact that there is a general lack of community awareness about the potential benefits and capabilities of ICT. Without a high level of ICT awareness, no community can fully participate in this networked world. Therefore, by raising awareness of e-records management early on in the programme and at the initial stage of its implementation, resistance may be avoided, and growth and adoption may be fostered.

2.7.9 Security and Privacy Issues

In today's networked environment, the problem of security and privacy is also one of the greatest concerns. According to Coppieters and Levêque (2013), information security is the set of management measures that safeguard the confidentiality, integrity, and availability of all forms of information, to ensure continuity of information and keep the possible consequences of information security incidents within an acceptable predefined level. It also means protection of the information architecture including network, hardware, and software assets, and control of access to the information itself. Asogwa (2012), asserts that the protection of classified electronic files containing personal and financial statements of an organisation cannot be guaranteed if proper security protections are not put in place. For instance, the reliability and authenticity of records held in electronic form may be questioned because they are easy to alter and open to tampering.

Nevertheless, while safety measures such as locking cabinets, employing security personnel, cameras, Closed Circuit Television (CCTVs), alarm systems, fire warnings and protection systems are mostly taken for the physical security of records, electronic security measures such as firewalls, passwords, encryption, security copies and access rights for each user category are some of the tools that can be used for securing the integrity, accuracy, and trustworthiness of electronic records (Dikopoulou and Mihiotis, 2010). Today, people have an inherent right to privacy that can be violated, intentionally or by accident, in an electronic environment. For example, in a medical facility, records contain an immense quantity of sensitive information such as fertility and abortions, emotional problems, sexual behaviours and diseases, substance abuse, and physical abuse (WHO, 2012). However, when access to this kind of information is uncontrolled, it can be injurious and detrimental to the well-being of a patient.

It is, therefore, important for the records officers to ensure that such pertinent records are electronically kept behind login passwords or even biometric sensors. Nevertheless, IRMT (2011), cautions that even though many current systems have password controls and audit trails, these controls are widely circumvented. For instance, it is very common for unauthorised persons to access files of information from a remote terminal through harking computer databases by breaking access codes (Mulauzi et al., 2012).

2.8 The Theoretical Framework of the Study

According to Kimea et al. (2019), several theories and models on technology adoption have evolved and there is a vast theoretical body of knowledge on technology adoption. Some of the

prominent theories on technology adoption/diffusion include the Theory of Reasoned Action (TRA) propounded by Fishbein and Ajzen (1975), the Technology Acceptance Model (TAM) proposed by Davis, Bagozzi, and Warshaw (1989), the Theory of Planned Behaviour (TPB) by Ajzen (1991), and the Diffusion of Innovation Theory (DOI) by Rogers (1962).

However, this study was guided by the Technology-Organisation-Environment (TOE) framework proposed by Tornatzky and Fleischer (1990). According to Sari and Santoso (2020), the TOE framework is an accurate theoretical landscape to investigate digital readiness in technology maintenance and innovation implementation in organisations. In this regard, this theory was deemed relevant to this study ahead of other theories because it aims at examining technology adoption at the organisational level. Ojiabo and Orokor (2017), argued that while the TAM, TPB, and TRA explore adoption at the individual level of analysis, the TOE framework is focused on the level of the organisation as a decision-making unit. Thus, using the TOE framework as a theoretical lens, the researcher could better appreciate and explain how an innovative technology such as e-records management may be adopted/implemented in government ministries and parastatals in Zambia.

2.8.1 The Technology-Organisation-Environment (TOE) Framework

The TOE framework was developed in 1990 by Tornatzky and Fleischer and it emerged from the field of organisational psychology. It is a classic framework that proposes a generic set of factors that explain and predict the likelihood of innovation/technology adoption (Awa et al., 2016). Over the years, many studies have used the TOE to inspect a vast array of innovations and technological readiness concepts at organisational level (Muhamad et al., 2020). For example, it has been utilised to examine the adoption of electronic data interchanges (Kuan and Chau, 2001), e-business (Zhu et al., 2004), cloud computing (Gutierrez et al., 2015), e-commerce (Hong and Zhu, 2006), e-procurement (Ibem, 2016), BIM implementation (Ahuja, 2016; Chen et al., 2019), and enterprise resource planning (Pan and Jang, 2008).

The TOE framework proposes three bits of enterprise contexts that influence the adoption and/or implementation of innovations. These are technological, organisational, and environmental, as depicted in Figure 1 below.

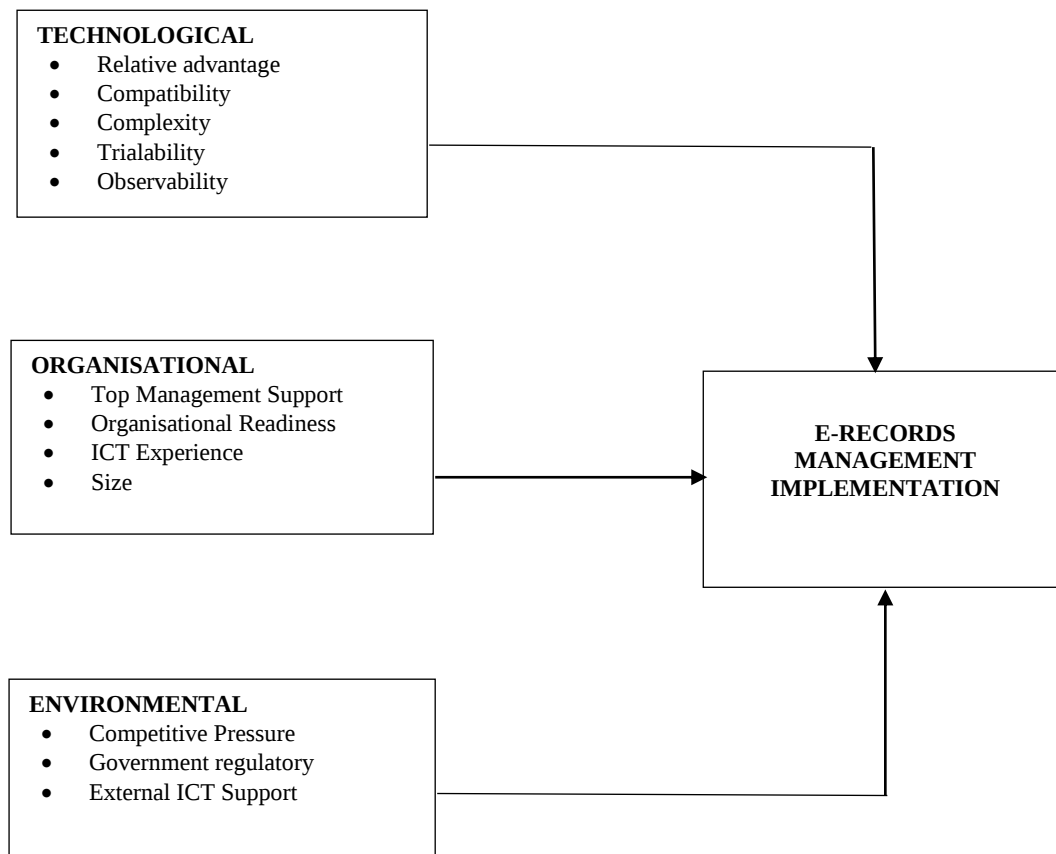


Figure 1: Technology-Organisation-Environment (TOE) Framework adopted from Tornatzky and Fleischer (1990)

2.8.1.1 Technological Context

The technological context refers to the internal and external technologies that are relevant to the firm (Gutierrez et al., 2015). This includes technologies that exist in the marketplace as well as technologies that are being utilised within the firm (Oliveira et al., 2014). The elements under this context include relative advantage, compatibility, complexity, trialability, and observability.

2.8.1.1.1 Relative Advantage

This refers to the degree to which an innovation is perceived as being better than the idea it supersedes by a particular group of users, measured in terms that matter to those users, like economic advantage, social prestige, convenience, usefulness in accomplishing goals, quality of work outcomes, and satisfaction (Rogers, 2003). In other words, it is the degree to which an innovation provides desirable consequences for the adopter compared to other available alternatives, providing the decision makers with insight into its net benefits, which in turn will favor the innovation adoption decision (Scott and McGuire, 2017). Thus, when an ICT is

perceived to offer a relative advantage over the firm's current practice, it is more likely to be adopted.

2.8.1.1.2 Compatibility

This refers to the degree to which an innovation consistently fits with existing business processes, values, past experiences, and needs of potential adopters (Rogers, 2003). According to Ramdani et al. (2013), given that adopting new advances has the potential to bring substantial changes to the organisation and its practices, its adoption of novel solutions is often met with resistance by organisational members. Therefore, the new changes brought by the adoption must be compatible with the existing infrastructure of the organisation. Dearing and Cox (2018), assert that if an innovation is compatible with the organisation's currently existing systems and its values and beliefs, then uncertainty will decrease and the rate of adoption/implementation of the innovation will increase. For instance, Pudjianto et al. (2011), argued that when organisations perceive e-government systems as compatible with existing beliefs and work practices, they are more likely to promote successful adoption.

2.8.1.1.3 Complexity

This is the degree to which innovation is recognised as being hard to understand intricately as well as being difficult to comprehend, exercise and use (Hoti, 2015). Jang et al. (2018), suggested that an innovation that is more complex is more uncertain to the decision maker and can therefore hinder its successful implementation. Sila (2013), also reiterates that adoption is more likely to succeed for less complex innovations.

2.8.1.1.4 Trialability

Trialability is defined as the degree to which an innovation may be experimented with, on a limited basis (Rogers, 2003). According to Ismail (2012), adopting an innovation that can first go through the experimental stage is cheaper and less threatening. The advantage in this case is that it eliminates any uncertainty or reduces any risk-taking. Shin and Hwang (2011) affirmed that the rate of adoption of an innovation that can have a pretrial on a limited basis is faster than innovation without a pretrial on a limited basis. Furthermore, Intharaksa (2009), also underscored that trialability includes the level of effort needed and risk involved in observing and participating in small-scale demonstrations of the system, including easily recovering, or undoing operations using a system, and the costs involved in reversing the decision to adopt.

2.8.1.1.5 Observability

This is the degree to which the results of innovation are visible to others (Rogers, 2003). In this regard, organisations will be more inclined to adopt new technology if they can observe the benefits that other organisations are reaping from adopting that technology (Sulafa, 2020). The benefits/outcomes of some innovations are observed and communicated easily to other people while some innovations are difficult to describe to other people. For instance, computer innovations have both hardware and software; the hardware is more observable than the software. In this regard, software technology has a relatively slower rate of adoption (Rodgers, 2003).

2.8.1.2 Organisational Context

This refers to the features and resources of the firm in terms of its top management support, organisational readiness, ICT experience, and size.

2.8.1.2.1 Top Management Support

Top management support entails the extent to which the management can provide support to the entire team and aid in problem-solving within the given timeframe. The term indicates the degree of management support given in the aspect of new technology adoption (Haneem et al., 2019). Chae et al. (2011), argued that top management support in the organisation has either positive or negative effects on technology adoption. For instance, a lack of organisation support could prevent end-users from using a particular system. On the contrary, if management support exists in the organisation, technology acceptance would materialize (AbuAkel and Ibrahim, 2020). In this regard, support and assistance from top management is a crucial aspect if an organisation aims to implement innovation effectively, as its execution involves wide-scale investments (Arnold et al., 2018).

2.8.1.2.2 Organisational Readiness

This is defined as “the availability of the needed organisational resources for innovation adoption” (Ramdani et al., 2013:738). It is concerned with the availability of financial, human, and technical resources of an organisation before implementing new technology (Yusof and Arifin, 2016). Srivastava and Teo (2007), suggested that ICT infrastructure and ICT expertise are critical variables towards the adoption/implementation of e-government projects. According to Koh et al. (2005), without the availability of technological infrastructure and expertise, e-

government systems cannot be implemented. Thus, when an organisation has both the needed infrastructure and IT skills, new technologies can be more effectively integrated and adopted.

2.8.1.2.3 ICT Experience

According to Ramdani et al. (2013), ICT experience determines whether an organisation is deterred from adopting new technology. Pudjianto et al. (2011), argued that organizations that are already familiar with information technologies (IT) have a positive attitude towards further IT adoption. For instance, the incremental cost and knowledge required to adopt the internet will be much smaller if an organisation already owns a computer and a telephone line (Kuan and Chau, 2001). Thus, prior ICT experience influences the adoption of new technologies in organisations.

2.8.1.2.4 Organisational Size

This is one of the most fundamental determinants of the organisational adoption of ICTs (Jeyaraj et al., 2006). According to Pudjianto et al. (2011), larger organisations adopt e-government systems more rapidly than their smaller counterparts due to a greater need to stay at the forefront of technology. Zhu et al. (2006), opined that large organisations have benefited as they possess greater resources and knowledge to invest in and implement technologies effectively.

2.8.1.3 Environmental Context

This refers to the environment in which a firm conducts its business, referring to its competitors, access to resources supplied by others, and dealings with the government that may affect any decision-making related to the adoption of technology by an organisation (Ji and Liang, 2016).

2.8.1.3.1 Competitive Pressure

This refers to the intensity and pressure levels experienced by organisations from their “same industry” competitors (Laforet, 2011). Jeyaraj et al. (2006), stated that competitive pressure is one of the best predictors of organisational adoption of innovations. According to Chandra and Kumar (2018), the number of organisations utilising new technology in a particular sector largely impacts innovation diffusion, as firms compete to be the pioneers of the latest innovations to secure their competitive edge. For instance, Pudjianto et al. (2011), stated that fierce competition tends to make governmental organisations replicate the IT adoption behavior of other successful institutions. By adopting new technologies, organisations can improve

service responsiveness and information transparency, increase quality, reduce costs, improve their efficiency and effectiveness, and achieve user satisfaction. In this regard, the need to adopt new technology is intensified in the business environment (Chandra and Kumar, 2018).

2.8.1.3.2 External ICT Support

This refers to the availability of support for implementing and maintaining an innovation from outside of the firm. It is also one of the most important determinants of innovation adoption. For instance, vendor and third-party service provider support and support from powerful business partners can impact innovation adoption as organizations are more willing to invest even if they do not have internal expertise to handle it (Bhattacharya and Samuel, 2015).

2.8.1.3.3 Government Regulatory

Government regulatory means any assistance and aid given by the authority to boost more innovation use in the future (Ifinedo, 2011). According to Gibbs and Kraemer (2004), government regulations and support in the form of laws, policies and incentives is a significant factor in individual firms' technology adoption decisions. Chong and Olesen (2017), argued that government regulations and support can work to either encourage or discourage organisations from adopting new technologies. For instance, in the context of e-government, new policies, and regulations are needed to promote e-government adoption. Without the appropriate regulatory framework, organisations may abuse or discourage the use of e-government systems (Pudjianto et al., 2011).

2.9 Application of the TOE Framework to the Study

In line with the TOE framework, it can be argued that the adoption/implementation of e-records management as an innovative technology in government ministries and parastatals in Zambia is dependent on it being perceived to offer some advantages/benefits to the adopting government ministries and parastatals and that it should also conform to the existing values, past experiences and needs of government ministries and parastatals in Zambia. In addition, if government ministries and parastatals perceive the e-records management initiative to be easy to use and that it has been tried, tested, and found to be working well, many government ministries and parastatals in Zambia would adopt the e-records management initiative.

The TOE framework also suggests that organisational factors such as top management support, organisational readiness, ICT experience and the size of an organisation affect the adoption of

any system. This means that if senior-level management in government ministries and parastatals commits financial and other resources, and that the staff have the necessary skills and technical knowledge, more government ministries and parastatals in Zambia could adopt e-records management.

Furthermore, the framework suggests that environmental factors such as competitive pressure, government regulations, and external ICT support also have a bearing on technology adoption in organisations. This implies that government ministries and agencies without an e-records management system may experience more pressure when more competitors have adopted it. In this regard, it can be argued that if government ministries and parastatals in Zambia experience greater competitive pressure, they are more likely to adopt e-records management. In addition, if government ministries and parastatals in Zambia perceive that new laws and policies have been enacted to promote e-government implementation and that there is adequate third-party support, more government ministries and parastatals in Zambia could adopt e-records management.

2.10 Summary of Chapter Two

The concept of e-records management can be traced back to the early 1970s, along with the introduction of computing and computerized information systems. During this period, many organisations and businesses around the world started producing documents at a much faster rate using computers and word processing software. Consequently, the need to keep even more records and manage them more efficiently became apparent because of the technology. Several studies and other related literature reviewed provide consistent results about the common types of e-records generated and kept in both public and private institutions around the world. Examples of such records include leave forms, records of benefits of employees, minutes, memos, correspondence, student grades, dissertations, reports, press statements, official speeches, policy documents, minutes of official meetings, and other business records, among others. Further, literature has also shown that in many countries around the world, both public and private sector players have deployed e-records management solutions such as EDRMS, ERMS, EDMS, and ECMS to keep and manage electronic records.

Several countries around the world such as Australia, the United States of America (USA), and Canada have also set forth policies, legislations, procedures, and standards for the efficient management of e-records. However, this is not the case with many countries in the ESARBICA region, as there are no known clear legal frameworks in the form of policies, laws, and standards that have been put in place, nor are there strategies initiated to manage electronic records or

have e-records readiness assessment thoroughly carried out. The literature reviewed has also shown that the success of implementing any system depends on knowledgeable and appropriately skilled records management specialists and ICT support staff working in close cooperation. However, the lack of trained records managers and ICT staff in governments affects the operations or practices necessary for the effective management of e-records. In addition, it has also been revealed that reliable and secure ICT infrastructure is something e-government initiatives cannot succeed without. Therefore, having a successful e-government initiative such as e-records management requires that government organisations establish a suitable ICT infrastructure to support information systems and applications.

The challenges of implementing e-records established in the literature reviewed include inadequate/lack of policy and legislative framework, inadequate ICT infrastructure, lack of senior management support and corruption, inadequate/lack of funding, lack of qualified staff with adequate ICT skills, high cost of ICT and maintenance, poor/non-availability of electricity, high resistance towards technology, and security and privacy issues. Furthermore, the Technology-Organisation-Environment (TOE) framework was used as a theoretical lens to guide the study. It emphasizes three primary elements which are technology, organisation, as well as the environment. The reviewed literature shows that these contexts affect the process of adopting/implementing and accepting new technology in organisations.

There are some notable gaps in the studies reviewed. While various studies from countries such as South Africa, Botswana, Kenya, Nigeria, and Zimbabwe have provided valuable insights, they have failed to adequately address the research questions posed by this study due to their limited scope and contextual relevance. Further, some of the studies focused on specific institutions or sectors, leaving out government ministries and parastatals, hence, the need for a study that comprehensively addresses the research questions asked. The proceeding chapter will discuss the methodology of the study.

CHAPTER THREE: METHODOLOGY

3.0 Overview

This chapter discusses the methodology that was used in the study. In this chapter, the discussion will be centered on research design, research site, target population, sample size, sampling techniques, methods of data collection and data collection procedures, and finally, the type of data analysis conducted. A summary of the chapter will be given at the end.

3.1 Research design

Owing to the nature of the topic under study, a cross-sectional survey design was adopted. A cross-sectional survey design is a type of research design that studies a population at a particular point in time (Wang and Cheng, 2020). According to Powell and Connaway (2004), the survey research method is suitable for studying many cases, even when they are geographically dispersed. It may include several different individuals, things or people not studied in as much detail for a longer period. Saunders et al. (2012), also agree by stating that data can be easily collected from different respondents in different settings through surveys.

In this study, the survey method was employed to describe, compare, contrast, classify, analyse, and interpret the implications of the findings. In addition, this study also made use of the survey design because it enabled the researcher to collect the required data over a broader population on a one-shot basis and hence it is economical and efficient. Further, the survey design was also desired for this study because of its strength of allowing the researcher to generalise from a smaller group to a larger group from which the subgroup has been selected (Muijs, 2004). Suffice to state that this study was largely quantitative in nature; it was, however, complemented by a qualitative inquiry in the form of follow up telephone interviews to clarify information in areas where the data collected was not clear or complete.

3.2 Research Site

This study was conducted in the Lusaka District of Zambia. The rationale behind confining the study to Lusaka District was because many government ministries and parastatal institutions are based in Lusaka, thus it is more likely to be a pilot site for the implementation of e-records management initiatives.

3.3 Study Population, Sample Size, and Sampling Method

The target population for this study comprised of 87 government ministries and parastatal institutions in Zambia. According to the Government of the Republic of Zambia (2024), there are 25 government ministries in Zambia. In addition to these, 4 key government institutions such as the Supreme Court, High Court, National Assembly of Zambia and the Public Service Management Division (PSMD) were also included in the study due to their critical roles in public service delivery and records management bringing the total number to 29. Additionally, the Auditor General's Report (2022) indicates that there are a total of 58 parastatals institutions in Zambia listed under subsidiary and investee companies, respectively. Therefore, the target population for this study comprised of 87 government ministries and parastatal institutions.

However, due to practical constraints such as time, resources and the refusal of some respondents to participate, not all government ministries and parastatal institutions could be included in the study. Therefore, a purposive sampling technique was used to choose a sample size of 50 institutions, comprising 29 government ministries and 21 parastatal institutions. In this regard, one representative of a government ministry or parastatal institution took part in the study preferably the records officer, registry clerk, or officer in charge of managing records. These were also purposively selected for the study because they manage records for these government ministries and parastatals thus, they were expected to have answers as regards the adoption and implementation of e-records management. Further, the government ministries and parastatals were also purposively selected because they have the greatest impact on the country's socio-economic landscape as they represent a diverse cross-section of institutions responsible for critical public services thus produce considerable amounts of records, and are pivotal in the core functions of the Zambian government as well as in records management.

The sample size of 50 selected for this study was informed by similar research conducted by Kalusopa (2011), who aimed at developing an integrated e-records readiness framework across 50 labour organisations in Botswana. In his study, Kalusopa utilised 50 organisations as units of analysis, citing practical constraints such as time and resources, and the relatively small size of the population, without significantly compromising the reliability of his findings. Therefore, by drawing from Kalusopa's methodology and adapting it to the context of this study, the selection of 50 government ministries and parastatal institutions was deemed sufficient to yield reliable and meaningful data.

3.4 Data Collection Instruments and Procedures

In this study, a self-administered questionnaire containing both closed-ended and open-ended questions was used to collect data from the respondents. The main attraction of using questionnaires in this study was because they are relatively fast in collecting data and allow the respondents to answer questions with no influence whatsoever from the researcher (Sincero, 2012). To begin with, before data collection, the researcher ensured that a clearance from the University of Zambia Ethics Committee and an introductory letter from the Assistant Dean, Postgraduate, School of Education at the University of Zambia (UNZA) were obtained for proof of identity when seeking permission from relevant authorities to conduct the study in government ministries and parastatals. Once permission was granted to carry out the study, the researcher introduced himself and thoroughly explained the purpose of the study to the respondents, and how it would benefit them and other relevant stakeholders. Thereafter, the researcher delivered the questionnaires by hand to the respondents and arranged for their collection at a later date. Additionally, follow-up telephone interviews were conducted to clarify responses where necessary. This helped address any incomplete or ambiguous answers in the questionnaires, ensuring that the data collected was as complete and accurate as possible. The responses from these telephone interviews were manually documented in field notes and later categorised according to themes aligned with the study objectives.

3.5 Reliability and Validity of the Study

3.5.1 Reliability of the Study

According to Wong and Cooper (2016), reliability refers to the consistency and stability of an instrument's measurements over time and across different conditions. In other words, a reliable instrument produces consistent results when administered repeatedly under similar circumstances. However, to ensure the reliability of the study, the questionnaire was peer-reviewed to ensure that the instrument was of high standard and would yield consistent results or data after repeated trials.

3.5.2 Validity of the Study

Validity refers to the extent to which an instrument measures what it is intended to measure. It assesses whether the instrument accurately captures the construct or concept it is designed to assess. A valid instrument provides accurate and meaningful results that align with the intended purpose of measurement (Creswell, 2012). Thus, to ensure the validity of the study, the data

collection instrument was piloted on 10 respondents from different government ministries and parastatal institutions (one participant per institution) with a request to receive them back within two (2) weeks. After receiving the pretest feedback, the researcher made the necessary amendments to the research instrument to address unclear wordings, typos, duplicate meanings, and difficult vocabulary. The rationale for this course of action was to ensure that the questionnaire measured what it intended to measure.

3.6 Data Analysis

The answered questionnaires were checked and coded to ensure that data was consistent, complete, and accurate. Suffice to state that quantitative data was processed and analysed using the Statistical Package for Social Sciences (SPSS) version 23. This data analysis instrument was used because it is most suitable for the analysis of quantitative data and it is more convenient, improves accuracy, and allows for easy evaluation.

After coding was done, the data was then entered into the SPSS and analysed, in which descriptive statistics were then used to summarise the data into frequencies, percentages, and graphical presentations including pie charts and bar graphs where appropriate. In addition, computer packages like MS Word and Excel Computer program were also used in the analysis of data. In this regard, Excel was used for the generation of more customized tables and graphs, which were then taken to MS Word for report writing.

3.7 Summary of Chapter Three

This chapter covered an overview of the research methodology used in the study. This study was quantitative in nature and the research design used was a survey method. In sampling government institutions and parastatals, the study applied a non-probability sampling method, called the purposive sampling method. The study sample consisted of 50 government ministries and parastatals in the Lusaka District. Therefore, one representative of a government ministries or agency holding the position of records officer or registry clerk/ officer in charge of managing records was selected to participate in the study. The study used hand-delivered questionnaires to gather data from the respondents. The collected data was analysed quantitatively using the Statistical Package for Social Sciences (SPSS) software version 23 to obtain frequencies, graphs, and percentages in an accurate, precise, easier, and fast way. The proceeding chapter will present the data analysis, presentation and interpretation of findings.

CHAPTER FOUR: PRESENTATION OF THE RESEARCH FINDINGS

4.0 Overview

The previous chapter elaborated on the methodology that was used in this study. This chapter presents the findings of this study. The presentation of the findings is guided and built around the study's specific objectives. The findings are therefore presented to the following specific objectives:

- (i) establish if government ministries and parastatals in Zambia create, receive, and/ or keep e-records.
- (ii) establish if there are legal frameworks, policies, and standards governing e-records management in government ministries and parastatals in Zambia.
- (iii) find out the level of knowledge and training of staff in e-records management in government ministries and parastatals in Zambia.
- (iv) determine the ICT infrastructure for e-records management in government ministries and parastatals in Zambia.
- (v) establish the possible challenges for e-records management in government ministries and parastatals in Zambia.

4.1 Response Rate and Characteristics of Respondents

The study's target population was 50 respondents purposively selected from 50 government ministries and parastatals in the Lusaka district of Zambia. A total of 50 questionnaires were distributed, out of which only 42 were completed and returned, registering a response rate of 84%. According to Babbie and Mouton (2011), a response rate of 50% is considered adequate for analysis, while 60% is good and 70% is considered very good. Kothari (2004) also echoes the same view that a response rate of 50% is adequate, while a response rate greater than 70% is very good. Therefore, based on these assertions, the response rate for this study was adequate.

As captured in Table 1 below, out of the 42 respondents who participated in the study, 30 (71%) were male while 12 (29) were female. As regards the age distribution of the respondents, the majority 16 (38.1%) and 15 (35.7%) of the respondents were between the age brackets of 26-35 years and 36-45 years respectively.

Table 1: Demographic characteristics of the respondents

SN	Variable	Value	Frequency	Percentage (%)
1	Gender	Female	12	29
		Male	30	71
2	Age Category	16-25	0	0
		26-35	16	38.1
		36-45	15	35.7
		46-55	9	21.4
		56+	2	4.8

Table 2 below presents the job descriptions, levels of education attained, and length of work experience of the respondents. The research findings showed that the majority, 28 (66.7%) of the respondents were Registry Clerks. As regards the levels of education attained, the findings revealed that the education distribution of respondents ranged from grade twelve certificate to master's degree. However, the majority 25 (59.5%) of the respondents were bachelor's degree holders. Further, concerning work experience, the findings revealed that the majority 14 (33.3%) of the respondents had been working in the institution for 4-7 years.

Table 2: Other Demographic Information of Respondents

SN	Variable	Value	Frequency	Percentage (%)
1	Positions Held	Records Officer	8	19.0
		Registry Clerk	28	66.7
		Others	6	14.3
2	Educational Levels	Secondary	3	7.1
		Certificate	3	7.1
		Diploma	9	21.4
		Bachelor's Degree	25	59.5
		Master's Degree	2	4.8
		Doctorate	0	0
3	Years of Work Experience	3 years & below	12	28.6
		4-7 years	14	33.3
		8-11 years	8	19.0
		12-15 years	3	7.1
		16 years & above	5	11.9

4.2 Types of Institutions

In terms of the type of institutions that participated in the study, 29 (69%) were Government Ministries while 13 (31%) were Parastatal Institutions, as depicted in Figure 2 below.

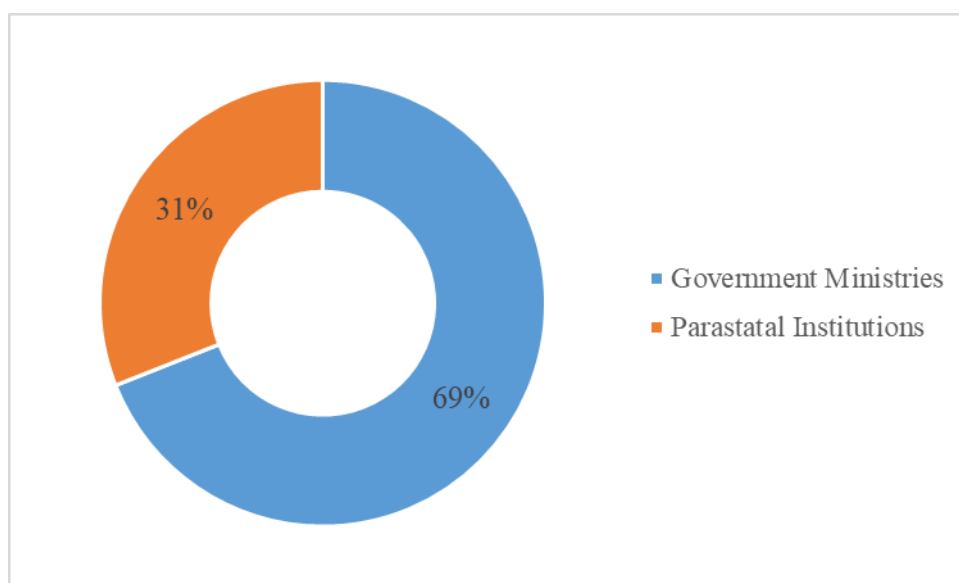


Figure 2: Institutions by Type

4.3 Electronic Records Management in Government Ministries and Parastatals in Zambia

On whether or not government ministries and parastatals in Zambia keep e-records, the majority 32 (76%) of the respondents said that they keep e-records while 10 (24%) said that they do not keep e-records. Further, the researcher asked the respondents, particularly the 32 (76%) who had indicated that they keep e-records to state the types of e-records created, received, and or stored in their institutions. Table 3 below shows that the majority 23 (54.8%) of the respondents stated that they create and/or receive records in the form of emails. However, a considerable number 14 (33.3%) respondents also said that they had records in the form of policy documents and other records such as contracts, agreements, memorandum of understanding (MOUs), confidential personal records, case records, and international agreements.

Table 3: Types of E-records Found in Government Ministries and Parastatals

SN	Record Type	Frequency	Percentage (%)
1	Emails	23	54.8
2	Policy documents	14	33.3
3	Reports/monthly, yearly, etc	12	28.6
4	Minutes	11	26.2

5	Court proceedings	8	19.0
6	Press release/statements	7	16.7
7	Official speeches	7	16.7
8	Tax invoices	7	16.7
9	Workshop/conference papers	7	16.7
10	Business Plans	3	7.1
11	Others	14	33.3

Further, those who had indicated that they keep e-records were asked to state how the records generated and/ or received during their business activities and transactions were kept. In this regard, the majority 21 (50.0%) of the respondents indicated that they keep their e-records on personal computers while 11 (26.2%) indicated that they keep their e-records on a server computer, as depicted in Table 4 below.

Table 4: Ways in which E-records are Kept

Means of Storage	Frequency	Percentage (%)
On Personal Computers	21	50.0
On a Server Computer	11	26.2
N/A	10	23.8
Total	42	100

Those who had indicated that they keep e-records on a server computer were asked to state the name of the software/ system they were using. Table 5 below shows that a few 4 (9.5%) of the respondents reported that they were using the electronic document and records management system, as depicted below.

Table 5: Software Used for Managing E-records

SN	Software Name	Type of Software				Total
		EDMS	ERMS	EDRMS	ECMS	
1	TRIM	0	0	1	0	1
2	HP Records manager	0	0	2	0	2
3	Saperion	0	0	0	1	1
4	Serge	0	0	0	1	1
5	ESS/Case flow management	1	0	0	0	1

6	E-NHIMA	0	0	0	1	1
7	ZRA ERMS	0	1	0	0	1
8	VicDocs/ Navison	1	0	0	0	1
9	Contract Management System	1	0	0	0	1
10	INRIS	0	0	1	0	1
	Total	3	1	4	3	11

After cross tabulating the type of institution and the e-records management system(s) implemented, it was discovered that parastatal institutions demonstrated a higher level of ERMS implementation compared to government ministries, with 7 (17%) having adopted some form of e-records management systems, as shown in the cross tab below.

*Table 6: Type of Institution * If server computer, what electronic records management system do you use? Crosstabulation*

Type of Institution	Electronic records management system used				Total
	EDMS	ERMS	EDRMS	ECMS	
Government Ministries	0	0	4	0	4
Parastatal Institutions	2	1	0	4	7
Total	2	1	4	4	11

Further, a cross tabulation was done between the level of education and the electronic records management system(s) implemented. The findings in the cross tab below show that institutions where members of staff hold higher academic qualifications, particularly bachelor's degree are more likely to have implemented e-records management systems. This indicates that higher education may be associated with greater adoption of e-records management practices.

Table 7: What is your highest level of education attained? If server computer, what electronic records management system do you use? Crosstabulation*

Level of education	Electronic records management system used				Total
	EDMS	ERMS	EDRMS	ECMS	
Secondary	0	0	0	0	0
Certificate	0	0	0	0	0
Diploma	1	0	1	0	2
Bachelor's Degree	0	1	2	4	7
Master's Degree	1	0	1	0	2
Total	2	1	4	4	11

The respondents were asked to state if there was any designated office responsible for the management of e-records in their institutions. The majority, 29 (69%) of the respondents reported that they had an office that was responsible for managing e-records while 13 (31%) reported that they did not have one. About the office responsible for managing e-records, the majority 11 (26.2%) of the respondents indicated that the Information Technology (IT) department was the office responsible for the management of e-records in their institutions. Other offices cited were the Registry and Records Management Office, as shown in Figure 3 below.

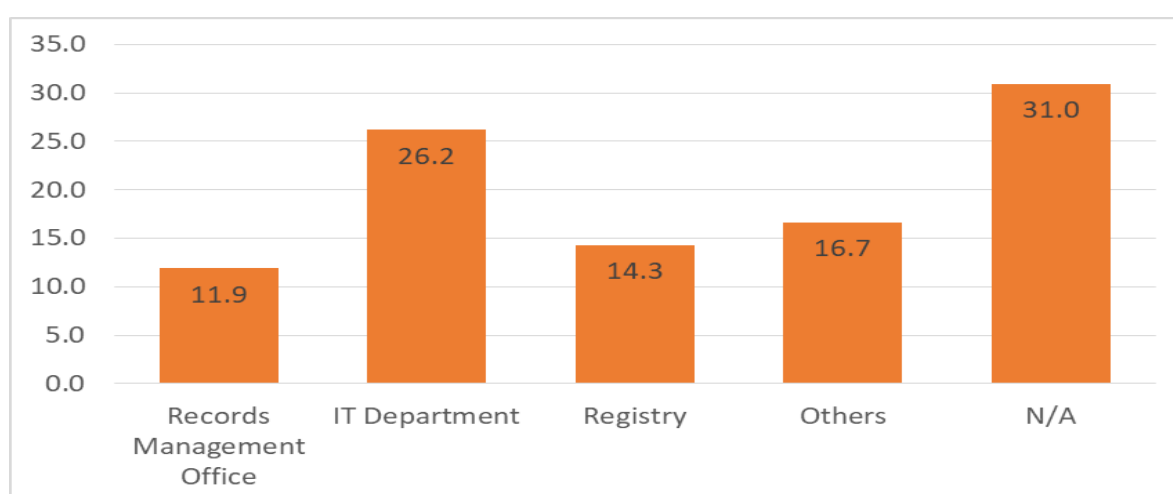


Figure 3: Office Responsible for E-records Management

4.4 Legal Frameworks, Policies, and Standards for the Management of E-records in Government Ministries and Parastatals in Zambia

Respondents were asked if they knew any legislative framework(s) governing records management in Zambia. In this regard, the majority 36 (86%) of the respondents reported that they were not aware of any legislative framework(s) that guide the management of records in Zambia while 6 (14%) were aware. Further, those who had indicated that they were aware of the legislative framework(s) governing records management in Zambia were asked to state the kind of legislative framework(s) of which they were aware. Three respondents said that they were aware of the National Archives of Zambia Act, Cap 175 of 1995, Two respondents cited the Electronic Government Act No. 41 of 2021, while One respondent cited the Electronic Communications and Transactions Act No. 4 of 2021.

Further, respondents were asked if they knew any policy(s) that govern records management in Zambia. In this regard, the majority 32 (76.2%) of the respondents reported that they were not aware of any policy(s) that govern the management of records in public organisations in Zambia while 10 (23.8%) were aware. After cross tabulating the level of education and awareness of a written records management policy in Zambia, the cross tab below shows that most of the respondents demonstrated the lack of awareness of a records management policy regardless of their level of education. This shows that these findings were not closely linked to level of education.

*Table 8: What is your highest level of education attained? *Do you know of any policy(s) governing records management in Zambia? Crosstabulation*

Level of education	Do you know of any policy(s) governing records management in Zambia?		Total
	Yes	No	
Secondary	1	2	3
Certificate	0	3	3
Diploma	1	8	9
Bachelor's Degree	8	17	25
Master's Degree	0	2	2
Total	10	32	42

However, follow-up telephone calls were made to seek clarification on respondent's awareness of the existing records management policies in Zambia. One participant from a parastatal institution mentioned that:

“Unfortunately, I am not aware of any policies that stipulate guidelines on how various institutions in Zambia are supposed to effectively handle and manage their records. I have only heard of the National Archives of Zambia Act, Cap 175 of 1995, but I think that has to do with the laws and not necessarily records management policies.”

Those who had indicated that they were aware of the policy(s) governing records management in Zambia were further asked to state the kind of policy(s) that are in place regarding records management in Zambia. A few 7 (16.7%) of the respondents reported that they were aware of the Public Service Records Management Policy while 3 (7.1%) reported that they were aware of the Registry Service Manual, as depicted in Figure 4 below.

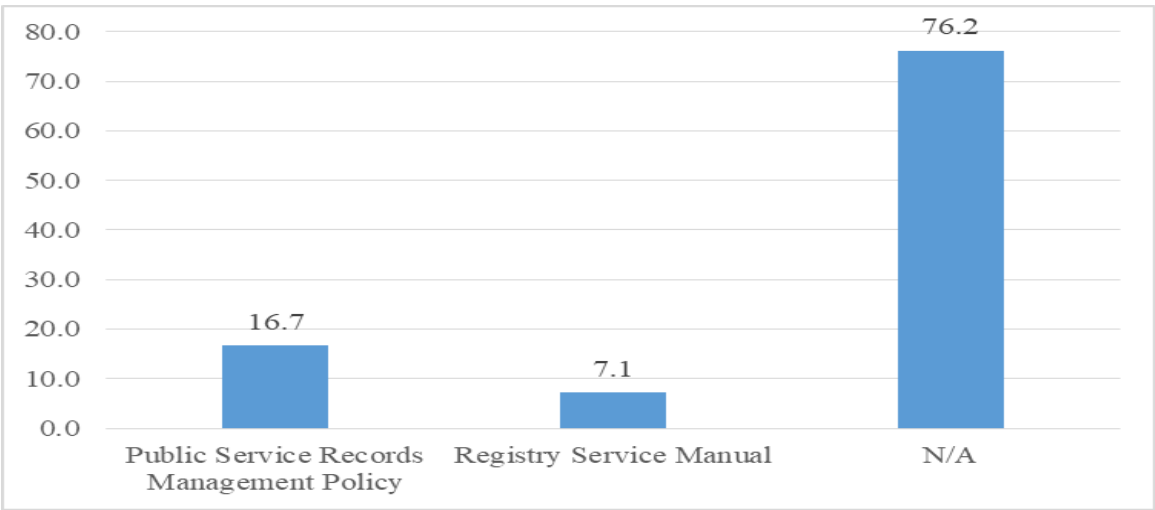


Figure 4: Records Management Policies in Zambia

With regards to the existence of a records management policy in government ministries and parastatals, the majority 26 (62%) of the respondents indicated that they did not have a policy in place relating to records management while 16 (38%) stated that the policy was in place. After cross tabulating the job title and the availability of a records management policy responses, it was discovered that 12 (28.5%) of the registry clerks were the most likely to report the existence of a records management policy in their institutions. Very few records officers were aware of the existence of a records management policy in their institutions, as shown in the cross tab below.

Table 9: What is your Job title?*Availability of a records management policy? Crosstabulation

Job title	Does your institution have a policy on records management?		Total
	Yes	No	
Records Officer	2	6	8
Registry Clerk	12	16	28
Others	2	4	6
Total	16	26	42

Those who indicated that a policy relating to records management was non-existent in their institutions were asked to explain the guiding principle used in managing e-records. One of the respondents said that they use Smart Zambia Standards, and another one said that they use court rules. Further, two respondents said they do not use any guidelines while Twenty-two did not respond. Further analysis of data revealed that out of the 16 (38%) of the respondents who indicated that they had a policy in place relating to records management, 5 (12%) of the respondents reported that the policy in place also covered the management of e-records while 11 (26%) said that it did not, as depicted in Figure 5 below.

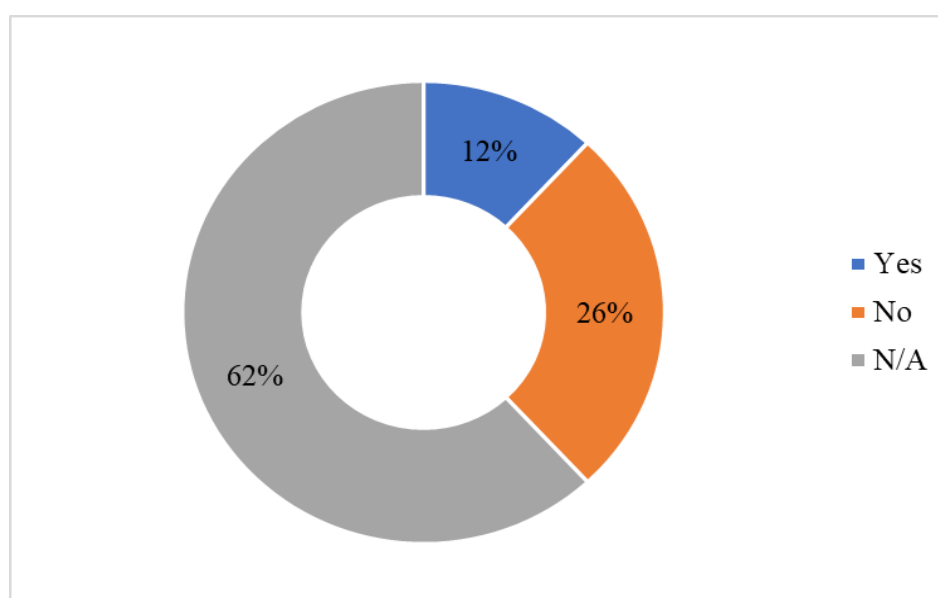


Figure 5: Coverage of E-records Management Scope in the Policy

Respondents were asked if they knew any internationally recognized standards for the management of e-records in Zambia. The majority, 25 (60%) of the respondents reported that

they were not aware of any e-records management standards while 17 (40%) were aware. Further, respondents were also asked to state if they had adopted any standard(s) to guide the management of e-records in their institutions. In this regard, the majority 31 (74%) of the respondents indicated that they have not adopted any standard(s) they could use to benchmark against the management of e-records while 11 (26%) have adopted the standard(s). Those who indicated that they have adopted e-records management standards were further asked to state the kind of standard(s) adopted. A few 8 (19.0%) of the respondents reported that they have adopted the ISO 15489, as captured in Figure 6 below.

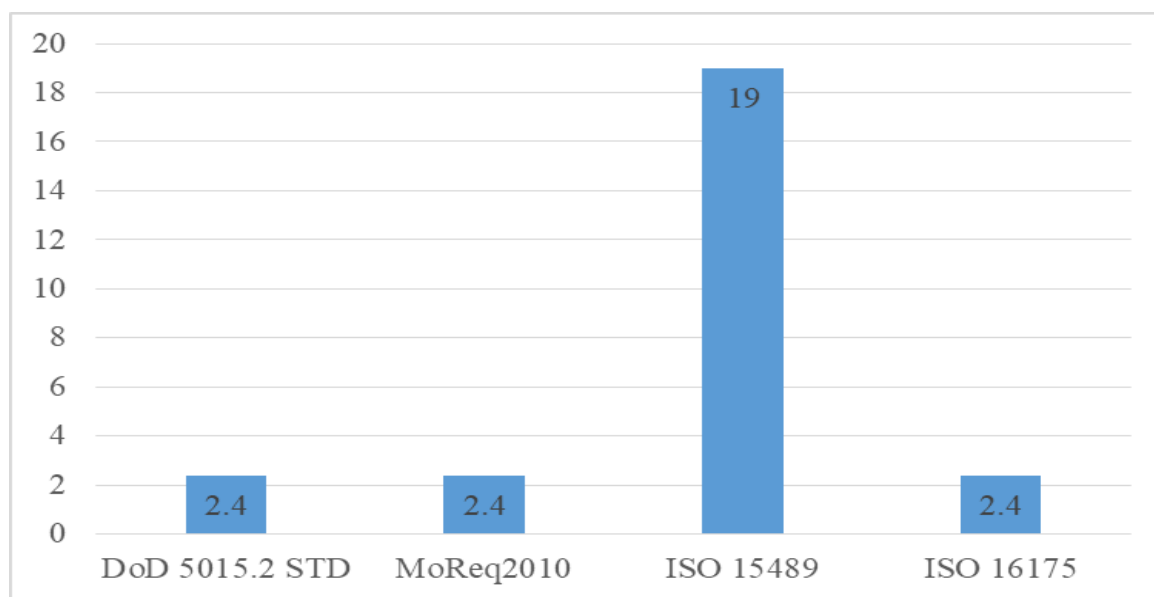


Figure 6: Adopted E-records Management Standard(s)

4.5 Levels of Knowledge and Training of Staff in Electronic Records Management

In terms of training, the respondents were asked to state if they have ever attended any formal training in e-records management. In this regard, the majority 24 (57%) of the respondents reported that they had never attended any training in e-records management while 18 (43%) said that they had attended. Further, the cross tab below shows that 8 (19%) members of staff who have been working in the institutions over a period of 4-7 years have never attended any formal training in e-records management.

*Table 10: Length of Service * Formal training in e-records management? Crosstabulation*

Length of Service	Have you ever attended any formal training in electronic records management?		Total
	Yes	No	
3 years & below	6	6	12
4-7 years	6	8	14
8-11 years	5	3	8
12-15 years	1	2	3
16 years & above	0	5	5
Total	18	24	42

On the type of e-records management training attended, 14 (58.3%) of the respondents indicated receiving training workshops. Others also cited receiving training through university/college courses, seminars, in-house training, and external institutions, as shown in Table 11 below.

Table 11: Kind of E-records Management Training Received

SN	Type of training	Frequency	Percentage (%)
1	Workshops	14	58.3
2	Seminars	7	29.2
3	College or University-level courses	12	50.0
4	In-house training	7	29.2
5	External institution	5	20.8

Further, 18 (43%) of the respondents who reported having attended formal training in e-records management were also asked to indicate how frequently they attended the training. In this regard, the majority 12 (28.6%) of the respondents indicated that they do not often attend, as shown in Figure 7 below.

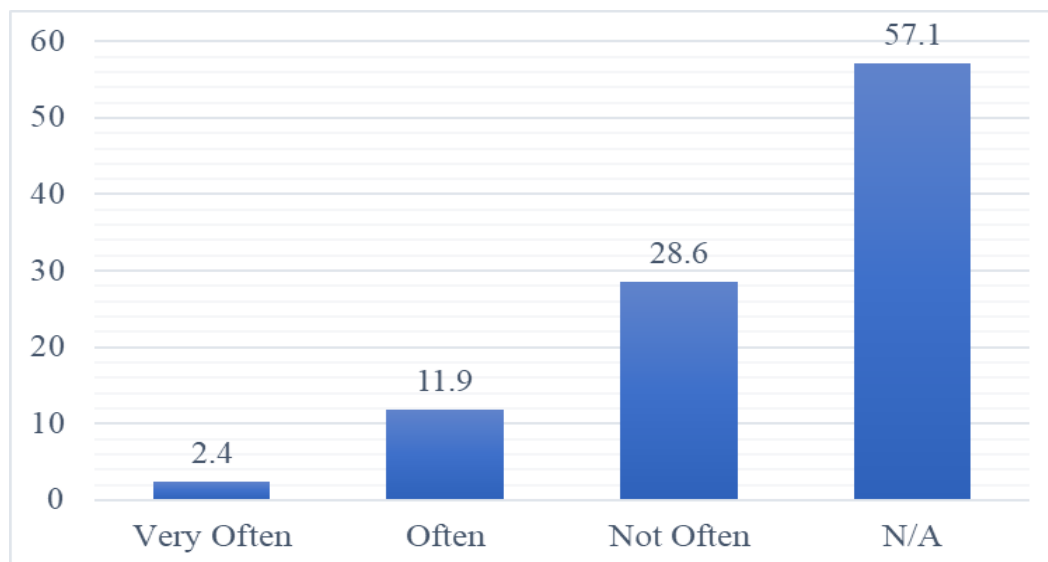


Figure 7: Frequency of Training in E-records Management

4.6 ICT Infrastructure for Electronic Records Management in Government Ministries and Parastatals in Zambia

On the issue of having computers in their offices, many government ministries and parastatals reported having computers as confirmed by 22 (52%) of the respondents while 20 (48%) said that they did not. After cross-tabulating the type of institutions and the availability of computer responses, it was discovered that most of the respondents who reported having computers were parastatal institutions, as captured in the cross tab below.

Table 12: Type of Institution * Do you have computers in your institution? Crosstabulation

Type of Institution	Do you have computers in your institution?		Total
	Yes	No	
Government Ministries	9	20	29
Parastatal Institutions	13	0	13
Total	22	20	42

Further, those respondents who reported having computers were asked to state if their computers were connected to the Internet. In this regard, 12 (28%) of the respondents indicated having had

their computers connected to the internet while 10 (24%) said that they were not, as shown in the cross tab below.

*Table 13: Type of Institution * If Yes, are the computers networked? Crosstabulation*

Type of Institution	If Yes, are the computers networked?			Total
	Yes	No	N/A	
Government Ministries	0	9	20	29
Parastatal Institutions	12	1	0	13
Total	12	10	20	42

Respondents were also asked to indicate the availability of the key ICT infrastructure requirements for the successful implementation of e-records management in government ministries and parastatals. In terms of computer servers for e-records management, the majority, 31 (74.0%) of the respondents indicated that they were not available while 11 (26.0%) said they were available. As regards the availability of e-records management systems, the majority, 31 (74.0%) of the respondents indicated that they were not available while 11 (26.0%) said they were available. On the issue of having stable access to the internet, many 30 (71.0%) respondents reported that they did not have stable internet access while 12 (29.0%) said that they had internet access. As regards the scanners for e-records management, the majority, 26 (62.0%) of the respondents indicated that scanners were not available while 16 (38.0%) said they were available. Furthermore, in terms of having printers, 35 (83.3%) of the respondents said that they were not available while 7 (16.4%) said they were available, as presented in Table 14 below.

Table 14: Availability of ICT Infrastructure for E-Records Management

SN	Availability of ICT facilities	YES	%	NO	%
1	Computer servers	11	26.0	31	74.0
2	E-records management system(s)	11	26.0	31	74.0
3	Stable access to internet	12	29.0	30	71.0
4	Scanners	16	38.0	26	62.0
5	Printers	7	16.4	35	83.3

The respondents were also asked to rate the presence of ICT infrastructure in their institutions. In this regard, the majority, 25 (60%) of the respondents reported that the presence of ICT infrastructure in their institutions was inadequate, 10 (24%) stated that it was adequate while 7 (16%) indicated that it was very adequate, as shown by the cross tab below.

*Table 15: Type of Institution * Presence of ICT infrastructure in your institution?
Crosstabulation*

Type of Institution	How would you rate the presence of ICT infrastructure in your institution?			Total
	Very Adequate	Inadequate	Adequate	
Government Ministries	3	23	3	29
Parastatal Institutions	4	2	7	13
Total	7	25	10	42

4.7 Challenges for Electronic Records Management in Government Ministries and Parastatals

As captured in Table 16 below, inadequate/lack of funding was the most notable challenge, which was reported by 30 (71.4%) of the government ministries and parastatals. This was followed by inadequate/lack of policies, laws, and standards reported by 28 (66.7%), inadequate ICT infrastructure reported by 25 (60.0%), lack of qualified staff and training reported by 24 (57.1%), high cost of ICT and maintenance reported by 21 (50.0%). Other challenges cited included lack of senior management support and corruption as reported by 14 (33.3%), high resistance towards technology reported by 14 (33.3%), security and privacy issues reported by 13 (31.0%), and poor/non-availability of electricity reported by 1 (2.4%). During the follow-up telephone interviews, it became clear that the lack of funding was a major significant challenge toward e-records management. One participant from a parastatal institution candidly remarked that:

“As a registry department, we receive limited funding and most of it goes to other essential services. There is never enough money to invest in good electronic record-keeping systems because our budget is too small to even cover ICT upgrades and maintenance.”

Similarly, another participant from a government ministry added that:

“Actually, we are overwhelmed with piles of documents, yet we lack basic supplies like box files, bond paper, and markers to keep things organised. The funds allocated for records management are simply not enough to upgrade to an e-records management system.”

On the availability of ICT infrastructure for e-records management, one participant from a government ministry submitted that:

"We share one or two outdated computers in the office, and sometimes they don't even work properly. Therefore, it is practically difficult, if not impossible, for us to successfully transition to e-records management because we don't even have the basic necessary equipment to support such an agenda".

Similarly, another participant stated that:

“Most of our computers are old and slow. Sometimes, they take several minutes just to open a simple file. This delays our work and it becomes very frustrating”.

Furthermore, it also became clear that the lack of training was also a major challenge toward e-records management. One participant from a government ministry mentioned that:

"Since I joined this institution, we have been using paper-based files for years. Many of us have never received any training on how to handle and manage e-records. In order for us to successfully transition to e-records, I think those in top management should see e-records as a priority and invest in comprehensive training programs for all the staff involved in the management of records to equip them with the necessary skills".

Table 16: E-records Management Challenges

SN	Challenges	Frequency	Percentage (%)
1	Inadequate/lack of funding	30	71.4
2	Inadequate/lack of policy, laws, and standards	28	66.7
3	Inadequate ICT Infrastructure	25	60.0

4	Lack of qualified staff and training	24	57.1
5	High cost of ICT and maintenance	21	50.0
6	Lack of senior management support and corruption	14	33.3
7	High resistance towards technology	14	33.3
8	Security and privacy issues	13	31.0
9	Poor/non-availability of electricity	1	2.4

Given the above findings, respondents provided several suggestions. 10 (23.8%) of the respondents felt that there was a need to develop effective e-records management policies, 8 (19.0%) felt that there was a need for training of staff in e-records management, 5 (11.9%) felt that there should be support from the senior management, 5 (11.9%) felt that there was need to raise awareness about the importance of e-records management in organisations by carrying out sensitisation programmes, 4 (9.5%) felt that there was need for more funding while 10 (23.8%) did not respond, as reflected in table 17 below.

Table 17: Suggestions for the Successful Implementation of E-records Management

Suggestions	Frequency	Percentage (%)
Need to develop e-records management policies	10	23.8
Need for training of staff in e-records management	8	19.0
There should be support from the top management	5	11.9
Need to carry out sensitisation programmes	5	11.9
Need for more funding	4	9.5
No Response	10	23.8
Total	42	100

4.8 Summary of Chapter Four

The study has established that the majority 76% of government ministries and parastatals in Zambia keep e-records which include emails, policy documents, reports, court proceedings, minutes, official speeches, and workshop/conference papers, predominately stored on personal computers as confirmed by the majority 50% of the respondents. The study also showed that the majority 86% of the respondents were not aware of any legislative framework(s) that supports records management in Zambia. However, the minority 6 (14%) of the respondents reported that they were aware of the National Archives of Zambia Act, Cap 175 of 1995, the Electronic Government Act No. 41 of 2021, and the Electronic Communications and Transactions Act No. 4 of 2021. As regards records management policies, the majority 32 (76.2%) of the respondents reported that they were unaware of the policy(s) that guide records management in Zambia. However, 10 (23.8%) of the respondents reported that they were aware of the Public Service Records Management Policy, and the Registry Service Manual.

The findings also showed that many 26 (62%) of the government ministries and parastatals in Zambia did not have a records management policy in place. It was also revealed that the majority 31 (74%) of the government ministries and parastatals in Zambia have not adopted any standard(s) to support the management of e-records. Furthermore, in terms of training, 24 (57%) of the respondents indicated that they have not attended any formal e-records management training. On the issue of having computers in their offices, many government ministries and parastatals in Zambia reported having computers as confirmed by 22 (52%) of the respondents. It was further established that out of the 22 (52%) of the government ministries and parastatals, only 12 (28%) indicated having had their computers connected to the internet. In addition, it was also revealed that the availability of ICT infrastructure in government ministries and parastatals in Zambia was inadequate as confirmed by the majority 25 (60%) of the respondents.

The findings have also shown that there are several challenges that hinder the effective management of e-records in Zambian government ministries and parastatals. The most notable challenge was lack of funding as confirmed by 30 (71.4%) of the respondents. Other challenges cited included lack of policies, laws, and standards, inadequate ICT infrastructure, lack of qualified staff and training, high cost of ICT and maintenance, lack of senior management support/corruption, high resistance towards technology, security and privacy, and poor/non-availability of electricity. The findings further established that to ensure effective e-records management in government departments and parastatals in Zambia, there is a need to develop e-records management policies as confirmed by many 10 (23.8%) of the respondents. Other

recommendations cited included the need for more funding, the need for training of staff in e-records management, the need for support from the senior management, and the need to raise awareness about the importance of e-records management by carrying out sensitisation programmes. The proceeding chapter will present the discussions of the research findings.

CHAPTER FIVE: DISCUSSION OF THE RESEARCH FINDINGS

5.0 Overview

This chapter discusses the research findings presented in chapter four, in relation to what was discovered in the literature review on e-records management in government ministries and parastatals. The chapter discusses the findings according to the research objectives and questions.

5.1 Electronic Records Management in Government Ministries and Parastatals in Zambia

The study established that the majority 76% of the government ministries and parastatals in Zambia keep e-records which include emails, policy documents, minutes of meetings, memos, reports, official speeches, contracts, press statements, tax invoices, workshops/conferences, and business plans, as shown in Table 3. These findings are similar to Newa and Mwantimwa's (2019) which showed that the Records and Archives Management Department of Tanzania (RAMD) created and managed e-records in the form of government bills, workers' data, speeches, policies, standing orders, circulars, and reports. Even though the findings of these two studies are similar, it was discovered that Newa and Mwantimwa's findings found e-records such as government bills, workers' data, standing orders, and circulars to be among the e-records being created and managed at Records and Archives Management Department of Tanzania which is not the case with this study. These results also concur with Luyombya and Ndagire (2020), who indicated that the Islamic University in Uganda generated e-records in the categories of correspondence, policies, minutes of meetings, reports, contracts, and equipment documents.

From these findings, just like in other countries, many government ministries and parastatals in Zambia are making commendable efforts in transitioning from traditional paper-based recordkeeping to electronic formats. The existence of a significant number of e-records in many government ministries and parastatals in Zambia suggests that they have realised the benefits of using digital technologies to streamline their administrative procedures and improve the overall management of records in their institutions. This is in line with the E-Government Act of 2021, which provides a legal framework for the adoption of e-government services in Zambia. The Act explicitly requires government institutions to digitise their records and use electronic systems to manage official documents. This ensures that records are created, stored, accessed, and preserved in electronic formats, reducing reliance on physical records. Additionally, the findings

also align with the Green Growth Strategy (2018-2030), which is Zambia's long-term plan that emphasizes the use of ICT for sustainable development by promoting efficient service delivery and reduces paper-based processes.

The study findings have further indicated that the majority 50% of government ministries and parastatals in Zambia kept their e-records on personal computers, as depicted in Table 4. Given the fact that many government ministries and parastatals in Zambia keep their e-records on personal computers and not on servers, is an indication that there is little e-records management going on in Zambian government ministries and parastatal institutions. Electronic records management involves formalised way of keeping records on centralised systems such as EDRMS, ERMS, and EDMS. This however is not the case in Zambia. The study findings revealed that electronic records management systems were not available in Zambian government ministries and parastatals. This may be attributable to the fact that these organisations keep records on personal computers. For example, only a few 9.5% of the government ministries and parastatals in Zambia such as the Zambia Revenue Authority, the Supreme Court, and the High Court of Zambia have deployed the Electronic Document and Records Management System (EDRMS) commercial software such as TRIM and HP Records Manager, as shown in Table 5.

In addition, the study found a relationship between educational qualifications and the implementation of the e-records management systems. The findings as presented in Table 7, established that members of staff with higher educational attainment were more likely to have implemented e-records management systems. This could be as a result of the knowledge that they may have attained during their studies in records management. Furthermore, their drive for knowledge through higher education puts them in a better position to grasp and be more receptive to digital transformation initiatives, including e-records management systems. Additionally, the findings as captured in Table 6, further showed that parastatal institutions demonstrated a higher level of electronic records management systems (ERMS) implementation compared to government ministries. This was an indication that e-records management is not yet fully integrated into government operations; many government ministries still rely on manual or paper-based records management. These findings concur with Luyombya (2010) whose study results revealed that specific electronic document and records management system (EDRMS) software was lacking in Ugandan Public Service (UPS) and yet this is a key requirement for effective records management in the digital era. The findings of the current study also relate to Asogwa's (2012) study in Nigeria which investigated the readiness of three Federal universities to manage e-records. The study found that records in the universities surveyed were created with

the aid of computer packages. The study further uncovered gaps in the creation of e-records in the three Federal universities in Nigeria following the absence of Electronic Document Management Systems (EDMS), Online Transactional Processing Systems (OTPS), and Decision Support Systems (DSS) that support the creation of digital records.

However, this is contrary to what is happening in other countries such as Kenya, Jamaica, South Africa, and Botswana where both the public and private sector players have deployed e-records management solutions to keep and manage e-records. For example, Malenya and Kwanya (2019), in their survey on records digitisation technologies and systems in the banking sector found that Kenyan banking institutions use various electronic recordkeeping systems and digitisation tools for the management of e-records including the EDMS and Digital Imaging Systems (DIS) such as Kodak Capture Pro, Credit Quest (CQ) software and Sybrin system. In addition, software such as Straight Through Processing (STP), Image Clean-up and Enhancement, Optical Character Recognition (OCR) technology, and Barcode Recognition Software were also found to be used by financial institutions for the management of e-records. Similarly, Crooks (2015), on the implementation of an electronic records management system at a quasi-financial institution in Jamaica revealed that the quasi-financial institution was managing its e-records using an EDRMS known as HP TRIM (a commercial software). Further, studies by Moatlhodi (2015) and Mosweu et al. (2016) in Botswana, also established that the Ministry of Trade and Industry successfully implemented an EDMS known as the Document Management Workflow System (DMWS) to improve the records management activities and procedures.

From these findings, it is evident that government ministries and parastatals in Zambia, to a larger extent, utilise the decentralisation approach in managing their e-records. This is so because the e-records that are generated and maintained in most government ministries and parastatals in Zambia are not kept in one central place but stored on the personal computers of staff who are charged with the responsibility of managing records. However, keeping e-records on personal computers is bad practice and it is meant for personal use. Further, access is limited to the owner of the computers and there is a risk to records because using personal computers as a storage medium may expose the records to data breaches, unauthorized access, and cyber-attacks. Not only that, but personal computers are also more susceptible to hardware failures, such as hard drive crashes, SSD failures, or damage from power surges. Thus, the practice of keeping e-records on personal computers is not formalised e-records management.

The research findings also established that the responsibility for the management of e-records in many government ministries and parastatals in Zambia typically falls under the jurisdiction of the Information Technology (IT) department. This finding was not in tandem with the research findings by Chaputula (2022) who found that MzuzuU University in Malawi had a well-established records management unit that handled the organisation's electronic records in addition to print records. However, no senior officer was managing it, and records management personnel reported directly to the University Registrar. The absence of a senior officer to oversee operations of the records management unit could have serious repercussions in the management of e-records of the organisation. From this finding, in today's digital era, the establishment of a dedicated unit responsible for the management of e-records is of paramount importance. The presence of such a unit signifies an organisation's commitment towards systematic and efficient e-records management practices. In other words, it implies that an organisation has recognised the critical importance of efficient and secure e-records management throughout its lifecycle. This aligns with the argument by Chaterera (2013) who opined that organisations should ensure that e-records are properly managed so that they serve the purpose for which they were created. This can be done by establishing or putting in place a unit whose sole responsibility is to ensure that a conducive environment for records management is created. This unit should ensure that records in whatever format are effectively and efficiently managed systematically throughout their lifecycle.

Going by the fact that the creation, use, maintenance, storage, retrieval, and disposal of e-records is technology-dependent, one would argue that the IT department is in the best position to handle and coordinate all e-records management activities. However, placing the sole responsibility of e-records management under the IT department would suggest that government ministries and parastatals in Zambia are not fully committed to efficient and effective e-records management practices. This is in the sense that the IT personnel are not experts in records management, therefore, they are ill-qualified to aid the effective management of electronic records. Effective management of e-records requires specialised knowledge and expertise who understand the intricacies of e-record management, data security, compliance with regulations, and best practices for records retention and disposal, ensuring that e-records are created, organised, classified, and stored in a manner that facilitates easy retrieval and access. This revelation is also supported by other scholars such as Bwalya (2010) who indicated that records management activities of an organisation should be assigned to an office that should be competent enough to discharge its responsibilities. Bwalya (2010) further argued that entrusting all records management functions to records management departments makes coordination of

records management functions across the organisation easy. In addition, more resources will be committed to records management activities by management.

Therefore, while the IT department could play a crucial role in providing the technical infrastructure, security, and data management tools necessary for the creation, storage, and retrieval of e-records, the Records Management Unit or Section is better positioned to oversee the broader governance, policies development, and practices associated with managing electronic records in a compliant and organized manner. Moreover, establishing a strong partnership between these two departments would ensure that both the technical and organisational aspects of e-records management are addressed comprehensively. Coordination and communication between IT and records management professionals are key to successful e-records management initiatives in public sector organisations in Zambia.

5.2 Legislative Frameworks, Policies, and Standards for Electronic Records Management in Government Ministries and Parastatals in Zambia

The findings of the study revealed that the majority 86% of government ministries and parastatals in Zambia were not aware of any legislative framework(s) that guide the management of records in Zambia. However, even though the findings show that there is a lack of awareness of the legal frameworks governing records management among many respondents, it has been found that Zambia has in place some relevant pieces of legislation that support e-records management in the country. Such legislation includes the Electronic Communications and Transactions Act No. 4 of 2021 and the Electronic Government Act No. 41 of 2021. For instance, the Electronic Communications and Transactions Act of 2021 in section 16 mandates organisations to capture and retain e-records. The Electronic Government Act of 2021 in sections 13 and 14 also permits public bodies to keep e-records and describes how they should be kept (The Government of the Republic of Zambia, 2021). It is imperative, however, to note that the effectiveness of these regulations in influencing organisational records management practices depends on how well they are understood and enforced.

Thus, given the fact that the staff responsible for records management in many Zambian government ministries and parastatals did not have a full grasp of the legislative provisions governing the management of e-records, was a cause for concern. This lack of widespread understanding of the legislative frameworks was a clear indication that the existing legal provisions designed to ensure that government ministries and parastatals in Zambia value and handle their e-records appropriately have not been adequately interpreted and promulgated to all

those involved in records management. Consequently, this makes it challenging to enforce the requirements related to e-records management. As captured in the Technology-Organisation-Environment (TOE) framework in Chapter 2, the environmental dimension stresses that government regulations and support in the form of laws, policies, and incentives are significant factors in individual firms' technology adoption decisions.

The findings on lack of awareness of the legal provisions were also consistent with the research findings by Marutha (2011) on records management in support of service delivery in the public health sector of the Limpopo province in South Africa, which indicated that despite creating, receiving, and managing electronic records, most members of staff were not aware of the legal frameworks that guide the management of records in their departments. Thus, records were not kept or managed following legal requirements, a situation which seriously compromised their management. These findings are, however, a direct opposite of what Mohlala (2020) found in South Africa where all the respondents were familiar with the legislative frameworks that govern the management of records and complied with them.

Regarding records management policies, the study findings revealed that 76.2% of government ministries and parastatals in Zambia were not familiar with the policy(s) governing records management in the public service. Despite the low levels of awareness of the policy(s) that govern the management of records at the national level, it was found that the Zambian Government through the Cabinet Office has developed and put in place the Public Service Records Management Policy and the Registry Service Manual to guide the management of records within the entire public service in Zambia. However, it was discovered that these tools only cater for the management of physical records and not e-records related issues. Nevertheless, suffice to state that government ministries are supposed to follow the records management policy and manual developed by the Cabinet Office in the management of their records while parastatal institutions must create and implement their own records management policies tailored to their specific needs and operations.

However, a general lack of awareness or knowledge regarding the overarching records management policy and manual among government ministries and parastatals, as indicated above, suggests that there is a significant gap in communication and dissemination of the established records management policies at the national level. Additionally, in order to establish the relationship between the awareness of a records management policy in Zambia and respondent's background information, it was evident that most of the respondents demonstrated the lack of awareness of the availability of a records management policy regardless of their level

of education. Therefore, the level of education had no bearing on knowledge of the existence of a records management policy, as shown in Table 8.

Moreover, it was further established that at the organisational level, e-records management policies were non-existent in government ministries and parastatals in Zambia. This was evidenced by the fact that the majority 62% of the respondents indicated that they did not have an electronic records management policy in place to guide the management of records. This meant that Zambian government ministries and parastatals were lacking a clear set of basic guidelines and instructions for effectively managing the growing volume of e-records. Additionally, the absence of e-records management policies in government ministries and parastatals in Zambia is also a clear indication that these institutions were not making great strides in raising awareness of the importance of e-records management policies in their institutions. The low awareness levels among government ministries and parastatals in Zambia represent a significant impediment and a concerning setback in the journey towards the effective deployment of e-records management initiatives in Zambia. However, the study also established that registry clerks were the most likely to report the existence of a records management policy in their institutions. Very few records officers were aware of the existence of a records management policy in their institutions, as depicted in Table 9. The implication of these findings is that records management policies may not be well communicated or uniformly enforced across all relevant personnel in government ministries and parastatal institutions in Zambia.

With respect to the standards for e-records management, the study findings revealed that many 60% of government ministries and parastatals in Zambia were not aware of the internationally recognized standards for the management of e-records. Moreover, a considerable number of 74% of government ministries and parastatals in Zambia have not adopted any standard(s) that they can use to benchmark against the management of their e-records. This demonstrates that government ministries and parastatals in Zambia do not manage their electronic records following generally accepted international standards. As a result, e-records may not be created, captured, used, and managed systematically, thereby compromising the quality of the records. However, the inability of Zambian government ministries and parastatals to adhere to the set standards for the management of e-records may be attributable to the lack of knowledge among the institutions.

This also appears to be a general trend in many countries around the world, particularly in the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) region. For example, in Botswana, Mosweu (2018) pointed out that although

having standards regulating digital records management is critical, there were no standards and guidelines to inform the management of authentic digital records in the government accounting system of Botswana. In Kenya, Ambira (2016) also indicated that there was no single ministry that had adopted any form of standard for the management of electronic records. Similar findings were also reported in Zimbabwe by Chikomba et al. (2020), who found that no financial services parastatal had adopted any electronic records management related standards. These research findings are, however, different from those of Kashaija (2019), who found that Canada had successfully implemented the International Standard Organisation (ISO) 15489-2001 and the Department of Defence had met the 5015.2 standards for the Electronic Document and Record Management Systems (EDRMS) in public offices aimed at enhancing e-governance.

This therefore suggests that, just like in other countries in the ESARBICA region, the management of electronic records in many government ministries and parastatals in Zambia does not adhere to the best practices as envisioned in the international standards for the management of e-records. However, if an effective e-records management programme is to be achieved, government ministries and parastatals in Zambia need to develop or embrace relevant standards to manage their electronic records. This is because standards are important tools for e-records management as they help to provide a framework and guidelines on how records should be managed within an organisation.

5.3 Knowledge and Training of Staff in Electronic Records Management in Government Ministries and Parastatals in Zambia

The findings of the study established that the majority 57% of the records management personnel in many government ministries and parastatals in Zambia have no formal training in e-records management. This means that the officers who are charged with the responsibility of managing records in Zambia do not have the much-needed knowledge and ICT skills for them to effectively manage electronic records in this new information age. This poses great risks to the long-term preservation of e-records in Zambia as essential institutional knowledge and historical data may be lost or become inaccessible over time. As observed in the Technology-Organisation-Environment (TOE) framework in Chapter 2, the organisational dimension considers the existence of trained and qualified personnel in organisations to effectively adopt and implement technological innovations such as e-records management systems. However, government ministries and parastatals in Zambia do not have qualified members of staff to handle e-records, thus this is not a good indication for the effective deployment of electronic records management initiatives in Zambia.

Furthermore, in order to establish the relationship between the length of service and formal training in e-records management, the findings as presented in Table 10, also showed that a considerable number of staff who have been working in government ministries and parastatal institutions for 4 to 7 years had never attended any formal training in e-records management. However, this raises concerns about whether continuous professional development in records management is being prioritised within these institutions. Ideally, members of staff with more years of experience should have had opportunities for training to enhance their skills and knowledge. The absence of such training may contribute to inefficiencies in managing e-records, as staff members may rely on outdated or ineffective records management practices.

The research findings presented above are not peculiar to government ministries and parastatals in Zambia. Previous studies, particularly in the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) region, have also supported these results. For example, the findings of a study carried out in Kenya by Owino and Namande (2022) on records management practices and service delivery at the pensions department, also established that staff were receiving less training in e-records management hence there were skill gaps and lack of new skills and knowledge on emerging trends. Similarly, the findings of other studies conducted by Kamatula (2018) and Newa and Mwantimwa (2019) in selected public offices in Tanzania also indicated that records personnel, action officers, and IT staff were not conversant with procedures and practices of e-records management and had inadequate knowledge and skills pertaining to e-records and its related systems, including metadata identification in e-records, procedures for e-records storage, distribution and disposition. As a result, governments experience a slow implementation of e-records management and e-government.

Similar results were also reported in Zimbabwe by Sigauke (2022), who in his study established that records officers and those involved in the management of digital records lacked the practical skills required in the creation, capture, metadata management, classification, storage, disposal, and preservation of digital records as well as basic ICT skills required in the management of digital records. This was compounded by a lack of training and retraining of staff with a particular focus on digital records management. As observed by Mosweu and Ngoepe (2019), e-records generated through various information systems in the realm of e-government must be managed by personnel with the right knowledge and skills. Mulauzi et al. (2012), also add that the move to information technology has created new skill requirements that need to be addressed as a matter of urgency to protect and preserve the records as evidence for operations and to protect citizens' rights and entitlements.

The various competencies and skills that are required of staff working in an e-records environment as noted by Wamukoya and Mutula (2005) include, records and information management skills, project management skills, technology skills, and managerial skills. Other e-records management skills needed include but are not limited to, creation, capturing, classifying, indexing, storing, retrieving, tracking, appraising, preserving, archiving, and disposing of records in an electronic environment. IRMT (2011), also underscores that these need to be complemented by knowledge of the e-records environment; knowledge of e-records management practices and trends; knowledge of the types of electronic records including web pages; and knowledge of IT applications to records and archives management.

It is for this reason that Bwalya (2010) remarked that short training such as workshops and seminars are cardinal as they enable workers to refresh the knowledge they acquired in colleges and universities and more importantly, keep them abreast of the changes taking place in their field. Therefore, failure to provide continuous professional development programmes to all the officers involved in the management of records in government ministries and parastatals in Zambia may lead to ineffective management of electronic records thereby undermining the operational efficiency of the institutions.

5.4 Information and Communication Technology Infrastructure for Electronic Records Management in Government Ministries and Parastatals in Zambia

The findings of the study revealed a contrasting scenario between government ministries and parastatal institutions in Zambia regarding the availability of necessary ICT infrastructure for e-records management. While computers and other essential ICT tools were readily available in all the surveyed parastatal institutions, the same could not be said for government ministries. In government ministries, the availability of ICT tools, particularly computers and internet access, was not as widespread as found in parastatal institutions. For example, as shown in Table 13, nearly all 28% of the surveyed parastatal institutions in Zambia reported having had their computers connected to the internet, indicating a higher level of ICT integration compared to government ministries. However, the unavailability of computers and robust internet connections in government ministries is an indication that they were not taking advantage of the basic ICT tools that could aid them in the creation, receipt, storage, retrieval, and transmission of information electronically as they carry out their various business activities or transactions. Consequently, this does not set a good premise for the deployment of e-records management initiatives in Zambia. These findings are consistent with the research findings of Issa and Wamukoya (2018) on the role of electronic records management in promoting the delivery of

justice in Dar Es Salaam commercial court in Tanzania, which showed that the court had inadequate computers to aid the management of electronic records and very few of them had wireless internet connection.

The study further revealed that while other key ICT facilities that could be used in the deployment of e-records management were also not available in many government ministries in Zambia, parastatal institutions appeared to be better positioned with the requisite ICT infrastructure for effective deployment and management of e-records. For example, key ICT tools such as servers, stable access to the internet, scanners, and printers were found to be more readily available and accessible in parastatal institutions compared to government ministries. This disparity can be necessitated by several factors such as the lack of funds to allocate to e-records management activities, lack of prioritisation, or staff resistance towards technology. Additionally, unlike parastatal institutions, government ministries in Zambia were not committed to using the ICT facilities that are available on the market to enhance the effective management of e-records. The dearth of such ICT tools meant that government ministries in Zambia lacked a robust support system that the e-records management initiative could leverage for the successful implementation of the projects.

These findings were not in tandem with the Technology-Organisation-Environment (TOE) framework. The organisational dimension of the TOE framework in Chapter 2, asserts that the ICT infrastructure including software and hardware such as computers, routers, scanners, printers, servers, and ERMS, coupled with trained IT expertise are critical variables towards the successful adoption and implementation of e-government projects such as e-records management. However, in Zambia, government ministries have not heavily invested in both human and financial resources which are important ingredients towards the procurement of ICT tools for effective deployment of e-records management initiatives in organisations. The findings of the current study are also in sharp contrast to the research findings of Kamatula (2018) who in his study on a framework for e-records in support of e-government implementation in the Tanzania public service, established that the government of Tanzania has made commendable efforts on the aspect of ICT infrastructure as all public offices were installed with several ICT tools including computers, Local Area Networks, internet facilities, fax machines, printers, scanners, telephones and have functioning ICT departments. Similarly, as observed by Maulid (2015), computer hardware and software, the internet, scanners, CD-ROMS, mobile phones, and audio recorders are very important e-records management facilitations.

Further, the study findings also established that the presence of ICT infrastructure in government ministries and parastatals in Zambia was inadequate as confirmed by 60% of the respondents. One possible explanation for this could be the lack of significant investments by Zambian government ministries and parastatals towards the deployment of ICTs in their business transactions and activities. If the e-records management programme has to be successfully deployed within government ministries and parastatals in Zambia, the top management must procure the requisite end-user ICT equipment and ensure internet connectivity as these are crucial for building a robust foundation for e-records management initiatives. This revelation is also in line with the Technology-Organisation-Environment (TOE) framework in Chapter 2, which emphasizes that leadership support and assistance is a key element if an organisation aims to effectively implement technological innovation such as ERMS, as its execution involves wide-scale investments such as money to buy ICT equipment and train people.

5.5 Challenges for Electronic Records Management in Government Ministries and Parastatals in Zambia

The findings of the study have established that several challenges impede the effective management of e-records in government ministries and parastatals in Zambia. As evidenced by the findings in Chapter 4, it has been discovered that inadequate or lack of funding in many government ministries and parastatals in Zambia is a major problem in the management of e-records. The findings among government ministries and parastatals in Zambia also corroborate previous studies, elsewhere in the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) region, which reported a lack of financial resources to support e-records management activities. For instance, in Tanzania, Kamatula (2008) also found that lack of adequate funding impeded progress on the records management agenda at the University of Dar Es Salaam. Lack of sufficient funds was also cited by Luyomba (2010) in Uganda as one of the challenges facing the public service in the management of e-records. Related results were also reported in other several studies by Rakemane and Mosweu (2020), Mampe (2013), and Mulauzi et al. (2012), who found that the funding needed to accomplish records management activities, including supporting the management of electronic records and taking care of records and archives, is a necessity neglected in many countries in sub-Saharan Africa.

It is clear from the findings that, just like in other developing countries, government ministries and parastatals in Zambia find it problematic to deploy e-records management initiatives due to

cost implications. Lack of finances or insufficient funding may cause many government ministries and parastatals in Zambia to experience failure in carrying out effective electronic recordkeeping activities. This sentiment is also supported by Mulauzi, Hamooya, and Munsanje (2015) who pointed out that records management programmes are doomed to failure without sufficient funding and other administrative support, such as staff, equipment, stationery, and procedure manuals. This, therefore, means that for an e-records management initiative to be successfully implemented, government ministries and parastatals in Zambia must allocate adequate finances to support the entire recordkeeping activities. This also reinforces Lyaruu's (2021), view that records handled as part of a records management programme require the availability of adequate budgets to carry out all tasks involved and to finance appropriate equipment and supplies. Similarly, Chikomba (2018), opined that, unless adequate funding is put in place, proper digital records management programmes will not be achieved.

The lack or inadequate policies, laws, and standards emerged in the study as another major issue towards the adoption and implementation of e-records management in many government ministries and parastatals in Zambia. The success of Zambian government ministries and parastatals in deploying an e-records management initiative is largely dependent on the availability of effective policies and regulatory frameworks for the management of records and information in all forms, including electronic and physical copies. The lack of records management policies and legislative frameworks in Zambian government ministries and parastatals would undermine the successful implementation and effective management of e-records and this in turn, affects the operations of the institutions. This aligns with the assertions by Asongwa (2012) that the implementation of e-records management fails to succeed because governments fail to assess the suitability of available legal and policy frameworks for electronic records management and to convince record managers that automation is not a threat to their careers so that they fully accept and implement it.

Luyombya (2010), further amplifies that in the absence of clear and enforceable policies, programmes, and strategies, organisations are likely to face several challenges such as loss of data, poor accountability as well as failure to access and retrieve required information stored in the electronic environment over time. This implies that to achieve a successful e-records management initiative, government ministries and parastatals in Zambia need to develop and implement workable policies and guidelines for the management of e-records. As observed in the environmental aspect of the Technology-Organisation-Environment (TOE) framework in

Chapter 2, new policies and appropriate regulatory frameworks are needed to promote the adoption of e-government projects such as e-records management in organisations.

The study findings also revealed that lack of qualified staff and training was another challenge in the adoption and implementation of e-records management in Zambian government ministries and parastatals. The successful deployment of e-records management initiatives in government ministries and parastatals in Zambia is dependent on those officers who are charged with the responsibility of handling the records having or being equipped with the right knowledge and skills in managing both paper and electronic records. Lack of training in e-records management among information management professionals could have a direct negative impact on the success of any organisation in attaining its intended goals. As organisations undertake various business activities or transactions, they generate many records that need to be properly maintained and retained as evidence of an organisation's transactions. However, if the staff who handle these records are ill-qualified, records become at risk as they may end up being damaged or lost, thereby leading to a waste of time and poor delivery of services to the public. This argument is in support of Harris (2007), who posits that as staff members in government entities are not qualified to deal with electronic records, in practice many government departments simply destroy records when they are no longer required for current needs.

The research findings also resonate with the argument by Chikomba (2018), who pointed out that even if government departments manage to develop policies and procedures and adhere to standards while putting in place the required infrastructure and providing resources for the management of electronic records, their success will still be incomplete if the staff entrusted with managing e-records do not have the necessary skills, knowledge, and experience. As indicated in the Technology-Organisation-Environment (TOE) framework in Chapter 2, organisational factors such as ICT expertise have a bearing on the adoption of any technology in an organisation (Srivastava and Teo, 2007). When an organisation has the needed internal capacity, including trained staff and IT skills, new technologies can be more effectively integrated and adopted. Thus, the findings of the current study, when interpreted through the TOE framework lens, suggest that the effective deployment of e-records management initiatives in Zambian government ministries and parastatals will not be achieved unless those involved in the management of records acquire and update themselves with adequate knowledge and ICT skills needed for them to effectively perform their duties in this digital era. As remarked by Kavishe and Dulle (2016), owing to fast changes in information technologies, it would be problematic for information management professionals to provide appropriate services without

any ongoing training. Therefore, the training of records management professionals in the 21st century where many of the records are created and managed by computer technologies is an important tool.

The study findings further revealed that the high cost of ICT and maintenance was another impediment towards the adoption and implementation of e-records management initiatives in many government ministries and parastatals in Zambia. Acquiring ICT infrastructure, such as computers, servers, scanners, printers, routers, and the necessary software, presents a steep financial hurdle. These ICT facilities are integral to any e-records management initiative but are expensive to procure. As evidenced by the findings in Chapter 4, many public sector organisations in Zambia often lack the necessary funds to invest in such infrastructure, thereby limiting their capacity to adopt e-records management initiatives. Additionally, the costs associated with maintaining and upgrading ICT systems are a continuous burden. As technology evolves rapidly, government ministries and parastatals need to frequently update their systems simply because these ICT tools become obsolete after some years. Moreover, the lack of internal technical expertise exacerbates this problem, as many organisations would be forced to outsource maintenance services, which come at an additional cost.

This finding aligns with the environmental dimension of the Technology-Organisation-Environment (TOE) framework in Chapter 2, which states that vendor and third-party service provider support and support from powerful business partners can impact innovation adoption as organisations are more willing to invest even if they do not have the internal expertise to handle it. The findings of the current study are also supported by Musangi's (2012) observation that among the main obstacles affecting ICT diffusion is the price that is charged to end-users by ICT service providers for ICT access. This is also in line with Otieno (2015), who opined that the initial cost of technology, which includes hardware such as workstations, servers, cabling and storage media and software, which includes database programs, operating systems, and network managers, coupled with the ongoing expenses of maintaining and upgrading them to avoid obsolescence are very prohibitive and several people cannot afford them.

The study findings also showed that high resistance towards technology was another challenge that hinder the deployment of e-records management initiatives in many government ministries and parastatals in Zambia. People, in general, can be resistant to change. Successful deployment of e-records management often requires a change in organisational processes and workflows. However, government ministries and parastatals in Zambia may be reluctant to embrace technology because they are comfortable with their existing processes and may fear that

technology will disrupt their routines or render their skills obsolete. This finding concurs with the assertions of other scholars such as Ayoku and Ojedokun (2008), who pointed out that older professionals find it difficult to cope with the requirements of the electronic age, and at the same time, they are too reluctant to jettison the old practices in exchange for new ones. They also perceive e-records management as a threat to their status as experts.

The findings of the current study also resonate with the technological aspect of the Technology-Organisation-Environment (TOE) framework in Chapter 2 which underscores that, given that adopting new advances has the potential to bring substantial changes to the organisation and its practices, its adoption of novel solutions is often met with resistance by organisational members (Ramdani et al., 2013). Therefore, the new changes brought by the adoption must be compatible with the existing infrastructure of the organisation. Conversely, Ojedokun (2008), contends that successful application of information handling technologies in the management of electronic records in developing countries requires an ability to overcome staff and personal resistance. Therefore, people should be trained in how to use the system and how they are going to benefit from the new system.

Other major challenges cited are lack of senior management support and corruption. Senior management plays a crucial role in setting the strategic direction for an organisation, including its approach to e-records management. However, as evidenced by the findings in Chapter 4, lack of support from top management largely has contributed to poor e-records management in many government ministries and agencies in Zambia. When interpreted through the Technology-Organisation-Environment (TOE) framework lens, the findings suggest that in Zambian government ministries and parastatals, officials in managerial positions tend not to recognize the value of effective e-records management practices or the significance of e-records as proof of an organisation's operations. This in turn often results in limited resources being allocated to support this function. The situation is further exacerbated by corruption as available resources may be diverted or misappropriated for personal gain rather than being used to enhance e-records management infrastructure and training efforts. Consequently, this makes it difficult for many government ministries and parastatals in Zambia to implement an effective e-records management agenda. This is also in line with Guto and Jumba (2021), who posited that corrupt leaders in Africa do not provide adequate funds, facilities, and infrastructure for proper and efficient e-records management programmes. Instead, corrupt bureaucrats intentionally distort public policies, public records, decision-making apparatuses, and sometimes go to a length to transfer experienced records managers in a bid to create opportunities for embezzlement.

The study's findings are also in tandem with the research findings of Matangira (2016), and Mutsagondo (2017) in Zimbabwe which indicated that lack of top management support in the public sector was evidenced by the lack of a budget which, in turn, jeopardised the management of records as it was accorded a low profile. This was also supported by Ngoepe and Ngulube (2016), who stressed that the lack of senior management support on records management practices was the main problem relating to the low level of implementation of e-records management in a systematic and organised way in the public sector in South Africa.

5.6 Summary of Chapter Five

In this chapter, it has emerged that 76% of government ministries and parastatals in Zambia keep e-records which include emails, policy documents, minutes, memos, reports, official speeches, contracts, and workshops/conferences, among others. These findings were consistent with the study findings in Tanzania and Uganda that revealed that e-records in the categories of correspondence, policies, speeches, minutes of meetings, reports, contracts, and equipment documents were being generated and maintained. It has also emerged that a high number 50% of government ministries and parastatals in Zambia kept their e-records on personal computers. This finding was not in tandem with the study findings in countries such as Kenya, Jamaica, South Africa, and Botswana which showed that both public and private sector players have deployed centralised systems such as the EDRMS, ERMS, and EDMS to keep and manage e-records.

It has further emerged that 86% of government ministries and parastatals in Zambia were not aware of any legislative framework(s) that guide the management of records in Zambia. However, despite this lack of awareness, it has been found that Zambia has several relevant pieces of legislation that support e-records management. These include the Electronic Communications and Transactions Act No. 4 of 2021 and the Electronic Government Act No. 41 of 2021. These findings were supported by the study findings in South Africa that revealed that despite creating, receiving, and managing e-records, most members of staff were not aware of the legal frameworks that guide the management of records in their departments. However, according to the TOE framework, government regulations and support in the form of laws, policies, and incentives is a significant factor in individual firms' technology adoption decisions.

With regards to records management policies, it was established that 76.2% of government ministries and parastatals in Zambia were not familiar with the policy(s) governing records management in the public service. Despite this lack of awareness, it was found that the Zambian

Government through the Cabinet Office has developed and put in place the Public Service Records Management Policy and the Registry Service Manual to guide the management of records within the entire public service in Zambia. Moreover, it also emerged that, at the institutional level, e-records management policies were non-existent in government ministries and parastatals in Zambia. It has further emerged that a considerable high number 74% of government ministries and parastatals in Zambia have not adopted any standard(s) to support e-records management. These findings were, however, different from those in Canada and USA that revealed that public offices had successfully implemented the International Standard Organisation (ISO) 15489-2001 and the Department of Defence had met the 5015.2 standards for the Electronic Document and Record Management Systems (EDRMS) aimed at enhancing e-governance.

It has also emerged that the majority 57% of staff involved in records management in government ministries and parastatals in Zambia have no formal training in e-records management. This finding was supported by earlier studies such as those done in Kenya, Tanzania, and Zimbabwe which showed that records staff had inadequate knowledge as well as basic ICT skills required in the management of digital records. However, this was not in agreement with the TOE framework, which emphasizes the significance of having professionally trained and qualified expertise to facilitate the successful implementation of technological innovations such as e-records management. It has further emerged that the presence of ICT infrastructure in government ministries and parastatals in Zambia was inadequate. This was attributed to a lack of significant investments by senior management towards the deployment of ICTs in their business transactions and activities. However, the TOE framework emphasizes the significance of leadership support in facilitating successful technology adoption.

It has also been established that several challenges hinder the successful deployment of e-records management in government ministries and parastatals in Zambia. The most notable challenge was inadequate/lack of funding. Other major challenges established included inadequate/lack of policies, laws and standards, inadequate ICT infrastructure, lack of qualified staff, high cost of ICT and maintenance, high resistance towards technology, and lack of senior management support and corruption.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.0 Overview

The previous chapter discussed the findings of the study. This chapter seeks to conclude various research objectives of the study. It further presents recommendations considering the research findings for possible implementation in government ministries and parastatals in Zambia and proposes areas for further research based on the findings of the study. Finally, the chapter closes with a summary.

6.1 Conclusions Drawn on Various Objectives

As indicated in Chapter 1, this study had five specific objectives that sought to address the problem of the study. These were to: (1) establish the extent to which government ministries and parastatals in Zambia keep e-records; (2) establish if there are legal frameworks, policies and standards governing e-records management; (3) find out the level of knowledge and training of staff in e-records management in government ministries and parastatals in Zambia; (4) determine the ICT infrastructure available for e-records management in government ministries and parastatals in Zambia; and (5) establish the possible challenges for e-records management in government ministries and parastatals in Zambia. On all the above objectives, the following conclusions have been drawn.

6.1.1 Electronic Records Management in Government Ministries and Parastatals in Zambia

The study findings have established that 76% of government ministries and parastatals in Zambia keep e-records which include emails, policy documents, minutes of meetings, court proceedings, memos, reports, official speeches, contracts, press statements, tax invoices, workshops/conferences, and business plans, as shown in Table 3. Despite a significant number of e-records being created and maintained, the study has brought to the fore the fact that the adoption and use of ERMS in government ministries and parastatals in Zambia is not widespread. This is because a significant portion of e-records that are generated in Zambian government ministries and parastatals were found to be stored on personal computers. E-records management involves formalised way of keeping records on centralised systems such as EDRMS or ERMS. This, however, is not the case in Zambia. The practice of keeping e-records on personal computers and not on servers was an indication that e-records management is not prominent in Zambian government ministries and parastatals. For example, only a few 9.5% of

the government ministries and parastatals in Zambia such as the Zambia Revenue Authority, the Supreme Court, and the High Court of Zambia have deployed the EDRMS commercial software such as TRIM and HP Records Manager, as depicted in Table 5. Consequently, the predominant storage method of e-records being personal computers rather than centralised systems raises concerns about the maturity of e-records management in Zambia.

6.1.2 Legislative Frameworks, Policies, and Standards for Electronic Records Management in Government Ministries and Parastatals in Zambia

The research findings have also established that the Government of Zambia has enacted some relevant laws such as the Electronic Communications and Transactions Act of 2021 and the Electronic Government Act 2021 to provide for e-records management in Zambia. However, there was a general lack of information on the existing legal provisions for e-records among many 86% of the government ministries and parastatals in Zambia, which may have a negative bearing on the way records management personnel in the public service operate in today's electronic environment. It has also been revealed that the Zambian Government through the Cabinet Office has developed the Public Service Records Management Policy and the Registry Service Manual to provide for records management within the entire public service in Zambia. It has, however, been discovered that these tools only cater for the management of physical records and not e-records. This implies that Zambia does not have an e-records management policy. Moreover, many 62% of the government ministries and parastatals in Zambia also lacked a clear set of basic guidelines and instructions for effectively managing the growing volume of e-records, following the absence of organisational e-records management policies in the surveyed institutions. This is an indication that the management of e-records in Zambia is not backed up by any government or organisational policy and this, in turn, makes it difficult for records management staff in the public service to widely adopt and use e-records management initiatives in various sectors of the country.

Further, the study findings revealed that a considerable high number 74% of government ministries and parastatals in Zambia have not developed or adopted any standard(s) that support e-records management in the public service. This means that the public service in Zambia does not have guidelines or a framework on how e-records ought to be kept and maintained. The implication of this is that records officers in public service organisations in Zambia may develop and implement e-records management systems that do not conform to internationally recognised standards set forth by international organisations such as the International Organisation for

Standardization (ISO), the United States Department of Defence, and the European Commission.

6.1.3 Knowledge and Training of Staff in Electronic Records Management in Government Ministries and Parastatals in Zambia

The study findings have established that the officers who are charged with the responsibility of managing records in Zambia do not have the much-needed knowledge and ICT skills for them to effectively manage e-records in this digital era. A good number 57% of the records management personnel in government ministries and parastatals in Zambia have no formal training in e-records management. This poses great risks to the long-term preservation of e-records in Zambia, as essential institutional knowledge and historical data may be lost or become inaccessible over the years. Therefore, considering the critical importance of effective e-records management in Zambian government ministries and parastatals, it is imperative that targeted training initiatives be implemented to equip records management staff with the necessary skills and knowledge in e-records management. Failure to provide comprehensive training programs to all the officers responsible for records management in the public service in Zambia may lead to ineffective management of e-records thereby undermining the operational efficiency of the organisations.

6.1.4 Information and Communication Technology Infrastructure for Electronic Records Management in Government Ministries and Parastatals in Zambia

The findings of the study have also shown that there is a notable disparity between government ministries and parastatal institutions in Zambia regarding the availability of ICT infrastructure for e-records management. In that, while parastatal institutions have displayed a higher level of ICT integration, including widespread access to computers, servers, internet connectivity, scanners, and printers, government ministries lagged in these aspects. This is in the sense that many government ministries in Zambia lack commitment towards the procurement and deployment of the essential ICT tools that are available on the market to enhance the effective management of e-records. This, in turn, poses a significant obstacle towards the effective adoption of an e-records management agenda in the public service. However, the discrepancy among the institutions regarding the availability of ICT infrastructure may have been necessitated by several factors such as lack of funds to allocate to e-records management activities, lack of prioritisation, or staff resistance towards technology.

6.1.5 Challenges for Electronic Records Management in Government Ministries and Parastatals in Zambia

It has been established that several challenges act as impediments to the effective management of e-records in government ministries and parastatals in Zambia. It emerged that inadequate funding was the greatest challenge, alongside issues such as the absence of clear policies, laws, and standards, lack of qualified and trained staff, inadequate ICT infrastructure, high cost of ICT and maintenance, high resistance towards technology adoption, and lack of senior management support and corruption.

6.2 Recommendations

Given the above findings, the following recommendations must be considered for implementation by the Government of the Republic of Zambia, ZARMA, and senior management in government ministries and parastatal institutions to increase the widespread adoption and implementation of e-records management initiatives in Zambia: -

- i) The Zambian government should review and update the existing records management policy and manual to incorporate provisions specifically tailored to the management of e-records, or if necessary, consider developing and implementing a National Electronic Records Management Policy that provides a set of guidelines and instructions on the effective management of e-records in the entire public service in Zambia.
- ii) The top management for parastatal institutions should consider developing and implementing clear in-house e-records management policies that are specifically tailored to their organisational needs.
- iii) The Zambian government should also develop or adopt internationally recognized standards for effective e-records management in the entire public service in Zambia.
- iv) The Zambia Archives and Records Management Association (ZARMA) should prioritise raising awareness among records management personnel about the existence of laws that support e-records management in Zambia.
- v) The top management in government ministries and parastatals should prioritise allocating sufficient funding for the procurement and continuous maintenance of end-user ICT equipment such as computers, internet connectivity, routers, servers, scanners, printers, etc.

- vi) The top management in government ministries and parastatals should consider procuring and implementing centralised e-records management solutions such as EDRMS, ERMS, and EDMS tailored to the specific needs of the organisations.
- vii) The top management in government ministries and parastatals should provide comprehensive training and capacity-building programs to equip all records staff with the necessary knowledge and skills for e-records management.

6.3 Summary of Chapter Six

It has been concluded that many 76% of government ministries and parastatals in Zambia kept e-records which include emails, policy documents, minutes of meetings, court proceedings, memos, reports, official speeches, contracts, press statements, tax invoices, workshops/conferences and business plans, among others, predominantly stored on personal computers. However, the predominant storage method of e-records being personal computers rather than centralised systems such as ERMS, was an indication that e-records management is not prominent in Zambian government ministries and parastatals. It has also been concluded that the government of Zambia has enacted some relevant laws such as the Electronic Communications and Transactions Act of 2021 and the Electronic Government Act 2021 to provide for e-records management in Zambia. However, there was a general lack of information on the existing legal provisions for e-records among many 86% of the government ministries and parastatals in Zambia. In addition to this, it has also been concluded that the Zambian government through the Cabinet Office has developed the Public Service Records Management Policy and the Registry Service Manual to guide the management of records within the entire public service in Zambia. However, many 76.2% of government ministries and parastatals in Zambia were not familiar with these tools. Furthermore, a considerable high number 74% of government ministries and parastatals in Zambia have not adopted any standards to support the management of e-records.

It has also been concluded that in the public service in Zambia, the records management personnel do not have the much-needed knowledge and ICT skills for them to effectively manage electronic records in this new information age. This was evidenced by the majority 57% of the respondents who have no formal training in e-records management. It has also been concluded that while parastatal institutions displayed a higher level of ICT integration, including widespread access to computers, servers, internet connectivity, scanners, and printers, government departments lagged in these aspects, as such ICT facilities were not readily available in many government ministries in Zambia. It has further been concluded that there are

several challenges that impede the effective management of e-records in many government ministries and parastatals in Zambia. The most notable challenge was the lack of financial resources. Other major challenges included a lack of policies, laws, and standards, lack of qualified staff, inadequate ICT infrastructure, high cost of ICT and maintenance, high resistance towards technology, and lack of senior management support and corruption.

Based on the study findings, several recommendations have been advanced which include urging the Zambian government to review and update the existing records policy and manual to encompass the management of e-records, or develop and implement a National Electronic Records Management Policy to guide the effective management of e-records in the entire public service; urging the top management for parastatal institutions to develop and implement clear in-house e-records management policies; urging ZARMA to prioritise raising awareness among records management staff about the existence of laws that support e-records management in Zambia; and urging the senior management in Zambian government ministries and parastatals to allocate sufficient funding for the procurement and continuous maintenance of end-user ICT equipment such as computers, internet connectivity, servers, scanners, printers, ERMS; and train records management staff in e-records management.

6.4 Suggestions for Future Research

This research focused solely on the government ministries and parastatal institutions in Zambia, leaving out the private sector, where, to the best of the researcher's knowledge, no studies on e-records management have been undertaken. Thus, further studies can be done focusing on the private sector in order to facilitate comparison of findings on e-records management. This study was also largely quantitative in nature; therefore, further studies could also adopt both quantitative and qualitative research approaches, which is a mixed-method approach. Such an inquiry could add value and provide deeper and broader insights into the current state of e-records management in Zambia.

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APPENDICES

Appendix 1: Participant informed consent form

Research Title: Electronic Records Management in Selected Government Ministries and Parastatals in Zambia

Researcher: Elijah Muntanga

Research Information

This research aims to investigate electronic records management in selected government ministries and parastatals in Zambia. You have been selected for this research in your official capacity as the person working with or responsible for records management in your institution. I wish to inform you that all responses provided will be kept confidential and strictly used for academic purposes, and your privacy will be protected.

Please note that your participation in this study is voluntary and you are under no obligation to consent to participation. You are free to withdraw at any point and without giving a reason. However, you are urged to participate in this study in order to make significant contribution to the implementation of electronic record management in Zambia. This study would benefit your institution, the government and individuals as it would contribute to knowledge in the area of electronic records management in Zambia. I also wish to inform you that the findings of the study will be made available to the participating institutions upon request.

For any questions or further clarifications with any aspect of this research, please do not hesitate to contact the researcher on mobile number: 0973372182/0770722022, e-mail: elijahmuntangajunior@gmail.com or the researcher's supervisor, in the Department of Library and Information Science, University of Zambia: Dr. Tuesday Bwalya, cell: 0974352804, e-mail: tuesdaybwalya1@gmail.com.

If you voluntarily agree to participate in this study, kindly indicate your consent by signing below:

Name.....

Signature.....

Cell.....

Date.....

Thank you for your cooperation and sparing your time.

Appendix 2: Questionnaire

Questionnaire number.....

THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

RESEARCH TOPIC: “Electronic Records Management in Selected Government Ministries and Parastatals in Zambia.”

Dear respondent,

My name is Elijah Muntanga. I am a student at the University of Zambia (UNZA) currently pursuing a Master of Library and Information Science (MLIS). I am carrying out research on “*Electronic Records Management in Selected Government Ministries and Parastatals in Zambia*”. With reference to this topic, you have been selected to participate in this research as a research respondent. Your answers will be helpful in acquiring relevant information for my research. I would be very grateful if you could spare some minutes of your time to answer the questions below. Please be advised that the research is purely for academic exercise and your responses will only be used for academic purposes and be treated with utmost confidentiality.

I also request you to please complete the attached Consent Form prior to answering the questionnaire.

INSTRUCTIONS

1. Use “N/A” for not applicable questions, avoid skipping some questions.
2. Tick (✓) the answer that expresses your view.
3. You are required to explain your answer where it is necessary; you may be as brief as possible by filling in the space provided.

SECTION A: BACKGROUND CHARACTERISTICS

1. What is your gender?
 - a) Female ☐
 - b) Male ☐
2. Which age group do you belong to?
 - a) 16-25 years ☐
 - b) 26-35 years ☐
 - c) 36-45 years ☐
 - d) 46-55 years ☐
 - e) 56 years and above ☐
3. What is your highest level of education attained?
.....
4. What is your Job title?
 - a) Records Officer ☐
 - b) Registry Clerk ☐
 - c) Any other (Kindly Specify)
5. For how long have you been working with this institution?
 - a) 3 years and below ☐
 - b) 4 – 7 years ☐
 - c) 8 – 11 years ☐
 - d) 12 – 15 years ☐
 - e) 16 years and above ☐
6. What is the name of your organisation?
.....
7. Kindly indicate the type of your organisation.
 - a) Government Ministry ☐
 - b) Parastatal Institution ☐

SECTION B: CREATION AND MANAGEMENT OF E-RECORDS

8. Do you keep electronic records in your institution?
 - a) Yes ☐
 - b) No ☐

(If No to Q8, go to Q14)

9. If Yes to Q8, what kind of electronic records are generated and/ or received in your institution? (Tick all that apply)

- a) Emails ☐
- b) Reports/monthly, yearly etc ☐
- c) Press release/statements ☐
- d) Official speeches ☐
- e) Policy documents ☐
- f) Court proceedings ☐
- g) Minutes ☐
- h) Tax invoices ☐
- i) Business plans ☐
- j) Workshop/conference papers ☐
- k) Any other (Kindly Specify).....

10. If you said you keep electronic records, how are they kept?

- a) On personal computers ☐
- b) On a server computer ☐
- c) Others (Kindly Specify).....

11. If your answer to Q10 was server computer, what electronic recordkeeping system do you use?

.....

12. Is there any designated office responsible for the management of electronic records in your institution?

- a) Yes ☐
- b) No ☐

13. If Yes to Q12, kindly mention the office which is directly responsible for managing electronic records in your institution

SECTION C: E-RECORDS MANAGEMENT LAWS, POLICIES AND STANDARDS

14. Do you know of any legislative framework(s) governing e-records management in Zambia?

- a) Yes ☐
- b) No ☐

(If No to Q14, skip Q15 and go to Q16)

15. If Yes to Q14, what kind of legislative framework(s) are in place regarding e-records management in Zambia?

.....
.....

16. Do you know of any policy(s) governing records management in Zambia?

a) Yes ☐

b) No ☐

(If No to Q16, skip Q17 and go to Q18)

17. If Yes to Q16, what kind of policy(s) are in place regarding records management in Zambia?

.....
.....

18. Does your institution have a policy on records management?

a) Yes ☐

b) No ☐

(If No to Q18, skip Q19 and go to Q20)

19. If Yes to Q18, does it cover the management of electronic records?

a) Yes ☐

b) No ☐

20. If No to Q18, what is your guiding principle in managing records in your institution?

.....
.....

21. Are you aware of any internationally recognized standards for the management of electronic records?

a) Yes ☐

b) No ☐

22. Have you adopted any standard(s) to guide the management of electronic records in your institution?

a) Yes ☐

b) No ☐

(If No to Q22, skip Q23 and go to Q24)

23. If Yes to Q22, which standard(s) does your institution benchmark against its management of electronic records? (Cycle all that apply)

- a) DoD 5015.2-STD- United States Department of Defense standard
- b) MoReq2010- The European Model Requirements for the Management of Electronic Records.
- c) BS 10008- Evidential weight and legal admissibility of electronic information –specification.
- d) ISO 15489- Information and Documentation-Records Management – Part 1: General.
- e) ISO 16175- Part 2: Guidelines and functional requirements for digital records management systems.
- f) Any other (Kindly Specify).....

SECTION D: LEVELS OF KNOWLEDGE AND TRAINING IN E-RECORDS MANAGEMENT

24. Have you ever attended any formal training in electronic records management?

- a) Yes ☐
- b) No ☐

(If No to Q24, skip Q25, Q26 and go to Q27)

25. If Yes to Q24, how did you receive the training? (Tick all that apply)

- a) Workshops ☐
- b) Seminars ☐
- c) College or university-level courses ☐
- d) In-house training ☐
- e) External institution ☐
- f) Any other (Please Specify).....

26. If your answer to Q26 was Yes, how often have you attended such training?

- a) Vey often ☐
- b) Often ☐
- c) Not often ☐

SECTION E: ICT INFRASTRUCTURE FOR E-RECORDS MANAGEMENT

27. Do you have computers in your institution?

- a) Yes ☐
- b) No ☐

(If No to Q27, skip Q28 and go to Q29)

28. If Yes to Q27, are the computers networked?

- a) Yes ☐
- b) No ☐

29. Kindly indicate below which of the following ICT Infrastructure is available for electronic records management in your institution.

SN	Availability of ICT facilities	YES	NO
1	Computer servers	☐	☐
2	E-records management system(s)	☐	☐
3	Stable access to internet	☐	☐
4	Scanners	☐	☐
5	Printers	☐	☐

30. How would you rate the presence of ICT infrastructure in your institution?

- a) Very adequate ☐
- b) Adequate ☐
- c) Inadequate ☐

SECTION F: CHALLENGES IN E-RECORDS MANAGEMENT

31. What do you consider to be the key challenges to the successful implementation of electronic records management? (Tick all that apply)

- a) Inadequate/lack of policy, laws and standards ☐
- b) Lack of qualified staff and training ☐
- c) Inadequate ICT Infrastructure ☐
- d) Lack of senior management support and corruption ☐
- e) Inadequate/lack of funding ☐
- f) High cost of ICT and maintenance ☐
- g) Poor/non-availability of electricity ☐

- h) High resistance towards technology ☐
- i) Security and privacy issues ☐
- j) Any other (Kindly Specify).....

32. What recommendations can you provide to ensure successful implementation of electronic records management?

.....

.....

.....

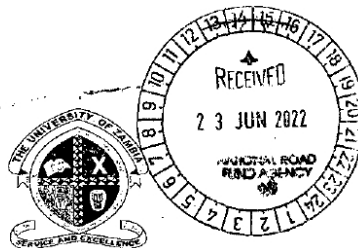
Thanks for your co-operation.

Appendix 3: A list of government ministries and parastatal institutions

No.	MINISTRY/INSTITUTION
1	Ministry of Agriculture
2	Ministry of Commerce, Trade and Industry
3	Ministry of Community Development and Social Services
4	Ministry of Defence
5	Ministry of Education
6	Ministry of Energy
7	Ministry of Fisheries and Livestock
8	Ministry of Finance and National Planning
9	Ministry of Foreign Affairs and International Cooperation
10	Ministry of Green Economy and Environment
11	Ministry of Health
12	Ministry of Home Affairs and Internal Security
13	Ministry of Information and Media
14	Ministry of Infrastructure, Housing and Urban Development
15	Ministry of Justice
16	Ministry of Labour and Social Security
17	Ministry of Lands and Natural Resources
18	Ministry of Local Government and Rural Development
19	Ministry of Mines and Minerals Development
20	Ministry of Small and Medium Enterprises Development
21	Ministry of Technology and Science
22	Ministry of Tourism
23	Ministry of Transport and Logistics
24	Ministry of Water Development and Sanitation
25	Ministry of Youth, Sport and Arts
26	Public Service Management Division (PSMD)
27	Supreme Court of Zambia
28	High Court of Zambia
29	National Assembly of Zambia

	PARASTATAL INSTITUTIONS
1	Anti-Corruption Commission (ACC)
2	Central Statistics Office (CSO)
3	Drug Enforcement Commission (DEC)
4	Evelyn Hone College
5	National Institute of Public Administration (NIPA)
6	National Pension Scheme Authority (NAPSA)
7	National Road Fund Agency (NRFA)
8	Patents and Companies Registration Agency (PACRA)
9	Public Service Pensions Fund (PSPF)
10	Road Development Agency (RDA)
11	Road Transport and Safety Agency (RTSA)
12	University of Zambia (UNZA)
13	Water Resources Management Authority (WARMA)
14	Workers' Compensation Fund Control Board (WCFCB)
15	Zambia Electricity Supply Corporation (ZESCO)
16	Zambia Environmental Management Agency (ZEMA)
17	Zambia Information and Communications Technology Authority (ZICTA)
18	Zambia National Broadcasting Corporation (ZNBC)
19	Zambia National Building Society (ZNBS)
20	Zambia Postal Services Corporation (ZAMPOST)
21	Zambia Revenue Authority (ZRA)

Appendix 4: Introductory Letter



THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION

Telephone: 291381
Telegram: UNZA, LUSAKA
Telex: UNZALU ZA 44370

PO Box 32379
Lusaka, Zambia
Fax: +260-1-292702

Date.....

TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: FIELD WORK FOR MASTERS/ PhD STUDENTS

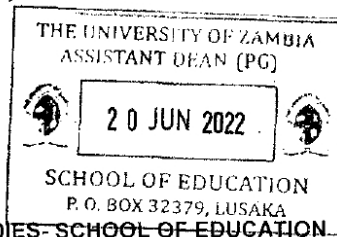
The bearer of this letter Mr./Ms. ELIJAH MWOTANGA..... Computer number 20191097486..... is a duly registered student at the University of Zambia, School of Education.

He/She is taking a Masters/PhD programme in Education. The programme has a fieldwork component which he/she has to complete.

We shall greatly appreciate if the necessary assistance is rendered to him/her/.

Yours faithfully

Bibian Kalinde (Dr)
ASSISTANT DEAN POSTGRADUATE STUDIES- SCHOOL OF EDUCATION



cc: Dean-Education
Director-DRGS

0973372182

Appendix 5: Ethical Clearance Letter



THE UNIVERSITY OF ZAMBIA

DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Great East Road | P.O. Box 32379 | Lusaka 10101 | Tel: +260-211-290 258/291 777
Fax: +260-1-290 258/253 952 | Email: director@drgrs.unza.zm | Website: www.unza.zm

APPROVAL OF STUDY

IORG No. 0005376

HSSREC IRB No. 00006464

20th June, 2022

REF NO.HSSREC-2022-MAY-002A

Elijah Muntanga
The University of Zambia,
School of Education
Department of Library and Information Science
P.O. Box 32379
LUSAKA

Dear Mr. Muntanga,

**RE: "ZAMBIA'S READINESS IN IMPLEMENTING ELECTRONIC RECORD
MANAGEMENT: A STUDY OF GOVERNMENT DEPARTMENTS AND
PARASTATALS"**

Reference is made to your submission of the protocol captioned above. The HSSREC resolved to approve this study and your participation as Principal Investigator for a period of one year.

REVIEW TYPE	ORDINARY REVIEW	APPROVAL NO. HSSREC-2022-MAY-002A
Approval and Expiry Date	Approval Date: 20 th June, 2022	Expiry Date: 20 th June, 2023
Protocol Version and Date	Version - Nil.	20 th June, 2023
Information Sheet, Consent Forms and Dates	☐ English.	To be provided
Consent form ID and Date	Version - Nil	To be provided
Recruitment Materials	Nil	Nil
Other Study Documents	Questionnaire.	
Number of Participants Approved for Study		

Specific conditions will apply to this approval. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to. If these are not adhered to, the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities will be informed.

Conditions of Approval

- No participant may be involved in any study procedure prior to the study approval or after the expiration date.
- All unanticipated or Serious Adverse Events (SAEs) must be reported to HSSREC within 5 days.
- All protocol modifications must be approved by HSSREC prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address.
- All protocol deviations must be reported to HSSREC within 5 working days.
- All recruitment materials must be approved by HSSREC prior to being used.
- Principal investigators are responsible for initiating Continuing Review proceedings. HSSREC will only approve a study for a period of 12 months.
- It is the responsibility of the PI to renew his/her ethics approval through a renewal application to HSSREC.
- Where the PI desires to extend the study after expiry of the study period, documents for study extension must be received by HSSREC at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Documents received within 30 days after expiry will be labelled "late submissions" and will incur a penalty fee of K500.00. No study shall be renewed whose documents are submitted for renewal 30 days after expiry of the certificate.
- Every 6 (six) months a progress report form supplied by The University of Zambia Humanities and Social Sciences Research Ethics Committee as an IRB must be filled in and submitted to us. There is a penalty of K500.00 for failure to submit the report.
- When closing a project, the PI is responsible for notifying, in writing or using the Research Ethics and Management Online (REMO), both HSSREC and the National Health Research Authority (NHRA) when ethics certification is no longer required for a project.
- In order to close an approved study, a Closing Report must be submitted in writing or through the REMO system. A Closing Report should be filed when data collection has ended and the study team will no longer be using human participants or animals or secondary data or have any direct or indirect contact with the research participants or animals for the study.
- Filing a closing report (rather than just letting your approval lapse) is important as it assists HSSREC in efficiently tracking and reporting on projects. Note that some funding agencies and sponsors require a notice of closure from the IRB which had approved the study and can only be generated after the Closing Report has been filed.
- A reprint of this letter shall be done at a fee.

- All protocol modifications must be approved by HSSREC by way of an application for an amendment prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address or methodology and methods. Many modifications entail minimal risk adjustments to a protocol and/or consent form and can be made on an Expedited basis (via the IRB Chair). Some examples are: format changes, correcting spelling errors, adding key personnel, minor changes to questionnaires, recruiting and changes, and so forth. Other, more substantive changes, especially those that may alter the risk-benefit ratio, may require Full Board review. In all cases, except where noted above regarding subject safety, any changes to any protocol document or procedure must first be approved by HSSREC before they can be implemented.

Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of HSSREC, we would like to wish you all the success as you carry out your study.

Yours faithfully,



Dr. J. I. Ziwa

DR. J. I. Ziwa

**ACTING CHAIRPERSON
THE UNIVERSITY OF ZAMBIA HUMANITIES AND
SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE - IRB**

cc: Director, Directorate of Research and Graduate Studies
Assistant Director (Research), Directorate of Research and Graduate Studies
Assistant Registrar (Research), Directorate of Research and Graduate Studies

Appendix 6: Work Plan

Activity	March- May	May	June- July	August- September	October- December
Development of the proposal					
Submission of the proposal for ethical clearance					
Primary data collection					
Data analysis and interpretation					
Report writing					
Report presentation					
Making corrections on the report					
Submission of the report for examination					

Appendix 7: Budget

S/N	Description	Quantity	Unit price	Total price
	Stationary : Pens	2	K2 per pen	K4
	: Pencils	2	K1.50 per pencil	K3
	: Writing pad	1	K10	K10
	: Flash disc	1	K150	K150
	Printing : Questionnaire	7 pages	K2 per page	K14
	: Proposal	78 pages	K2 per page	K156
	: Report	157 pages	K2 per page	K314
	Photocopying: Questionnaires	50*7 pages	K1 per page	K350
	Binding : Proposal	5	K15	K75
	: Report	5	K750	K750
	Lunch	1 month	K30 per day	K900
	Transport	1 month	K50 per day	K1500
	GRAND TOTAL			K 4,226.00